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The Student's Experience of Multimodal Assignments: Play, Learning, and Visual Thinking

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The Student's Experience of Multimodal Assignment: Play, Learning, and Visual Thinking

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Dedication

For Bryce

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The Student's Experience of Multimodal Assignments: Play, Learning, and Visual Thinking

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Much of current pedagogical discussion of the use of multimodal assignments in the writing classroom argues that one benefit of such assignments is that they foster student engagement, innovation, and creativity while simultaneously teaching writing and argumentation concepts. Although such discussions rarely use the term "play," play theorists consider engagement, innovation, creativity, and learning to be central characteristics and outcomes of play. Thus, what many scholars view as a major outcome of multimodal assignments might most accurately be described as playful learning. In order to investigate the validity of claims that playful learning is a product of multimodal assignments, this dissertation reports on the results of a comparative case study of four different classrooms that used multimodal assignments. The objective of the study was to better understand the students' experience of these assignments because the students' perspective is only represented anecdotally in the literature. The study's research questions asked: Do students find these assignments to be playful, creative, or engaging experiences? Do they view these assignments as related to and supportive of the more traditional goals of the course? And what role does the visual nature of these technologies have in the student's experience of using them or in their pedagogical effectiveness? Each case was composed of a different writing course, a different

assignment, and a different multimodal computer technology. The results of the study show that students generally did find these assignments both enjoyable and useful in terms of the learning goals of the course. Many students even went so far as to describe them as fun, indicating that for some students these were playful experiences in the traditional sense. However, comparison of the results of each case illustrates that the simple injection of a multimodal assignment into the classroom will not necessarily create a playful learning experience for students. The students' experience is a complex phenomenon that is impacted by the structure of the assignment, whether or not they are provided a space for exploration and experimentation, their attitude towards the technology, and the characteristics of the technology.

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A 2007 Pew Research Center report found "64% of online teens…have participated in one or more among a wide range of content-creating activities on the internet, up from 57% of online teens in a similar survey at the end of 2004" (Lenhart et al.). The study says that the internet serves as a place where "they can share creations, tell stories, and interact with others." More recently, a 2010 presentation by Pew's Internet and American Life Project shows that teens are creating all sorts of online content ranging from the very simple, such as uploading and commenting on photographs, to the very complex, such as writing fan-fiction (Purcell). Another Pew survey from 2010 about online video use reports that 14% of internet users have uploaded video, up from 8% in 2007, and another 2010 report says that, "37% of internet users have contributed to the creation of news, commented about it, or disseminated it via postings on social media sites like Facebook or Twitter" ("Your New Tube," "The New News Landscape"). This research supports what is already obvious from a brief look at sites like *Youtube*, *Facebook*, or *FanFiction*: students are composing creative, experimental texts on their own time. In short, students are playing with digital media, and the mode of their engagement and their composition is a playful one. While some might argue that these texts are merely playful (and therefore inconsequential), those familiar with play's role in creativity, innovation, experimentation, and learning understand their significance. Writing teachers are particularly aware that this self-sponsored, playful composing is most often occurring outside of the classroom, and many

are attempting to simultaneously capture some of this enthusiasm for composing and support the traditional learning objectives of a writing classroom by incorporating multimodal assignments into their courses (Selfe 606-607; Faigley 178-179; Yancey 4-5).

Although the use of digital media assignments in writing classrooms is becoming increasingly commonplace, the practice is still somewhat controversial. A recent exchange between Doug Hesse and Cynthia Selfe in *College Composition and Communication* both encapsulates the controversy over multimodal assignments and helps to define more clearly what I mean by "multimodal" and "traditional" assignments. In her essay "The Movement of Air, the Breathe of Meaning: Aurality and Multimodal Composing," Selfe argues for a broadening of what we mean by composition, making room for multimodal texts, in particular aural ones. Following Selfe, I use the term "multimodal" to describe texts that can incorporate a variety of visual, aural, and textual media, including all types of images, speech, music, maps, abstract visuals, captions, tags, links, and more (617). Although multimodal texts are often associated with or produced in digital environments, their defining characteristic is that they incorporate "a range of modalities and semiotic resources" (Selfe 618). My use of the term multimodal as opposed to multimedia, is meant to emphasize the composing process (the choices about which modes to use that students make as they compose), rather than on their final form (the media through which the final product is disseminated) (Lauer). The students' experience of the composing process is the main concern of this dissertation, and the term multimodal best reflects that emphasis. At times, however, I will also use the terms "digital text" or "digital media." Multimodal texts are not necessarily computer-based;

one could use all sorts of tools to create a multimodal text. Thus, my purpose in using the term "digital" is to emphasize that the assignments that are the focus of this dissertation are enabled by computer-based technologies and that the computer is the most often medium through which they are composed, viewed, read, and heard by both students and teachers.

Hesse responds to Selfe's article by arguing that multimodal texts are beyond the purview of our field, that writing courses have enough to cover as it is, and losing focus on "extended connective prose" is a disservice to our students and society (605). For Hesse, the goal of composition courses is "alphabetic and essayistic literacy" (605). Hesse values what I will call "traditional" assignments. The traditional texts produced by students in writing courses are academic or argumentative research essays usually written with word processing software alone and usually including no images. Selfe's rebuttal explains that while writing will remain central to her pedagogy, to ignore the important place of multimodal texts in twenty-first century communication would be irresponsible. She calls for continued focus on writing, and explains that her argument is "not *either/or*, but *both/and*": "...although writing retains a privileged position, literate citizens, increasingly, need to make use of *all* semiotic channels to communicate effectively among different groups and for different purposes" (606).

I wholeheartedly agree with Selfe; it is clear to me that there is space for multimodal assignments in the writing classroom and that they will enhance, not hinder, the acquisition of writing skills (Hodgson; Arroyo). But more than just agreeing with Selfe, I would like to extend her "both/and" conceptualization to the relationship between

playful and serious texts, as this "space" is perhaps where the "both/and" construction productively develops. Hesse and Selfe briefly touch on the role that play has in their discussion. Hesse describes the "self-sponsored" (read, digital) texts that students create on their own time as "ludic," and wonders about their connection to "purposes and environments that are, instead, obliged and sanctioned," (read, traditional written essay assignments) (605). Hesse explains that in the current healthcare debate, he "longs for more reasoned and developed rationales than the glib sound and image bites proffered from all angles" (605). Selfe takes issue with his association of written texts with "more reasoned and developed rationales" and sound and image texts with "less reasoned or 'glib' reasoning" (608). Both Walter Ong and Gregory Ulmer have also noted this association of writing with reason, arguing that this is largely due to the institutionalization of writing illustrated by writing's role as the preferred technology of academia (for Ulmer) and by the authority and finality associated with print texts (for Ong) (Ulmer 4; Ong 132-134). Selfe further explains that:

> This last move comes too close, for me, to re-inscribing a mistaken and problematic dichotomy between word and image; in this dichotomy, alphabetic writing is aligned with high art, seriousness, intellectual understanding, and rigorous exploration while images and aural forms of expression are aligned with low art, vernacular understanding, frivolity, and entertainment. (609)

While Selfe points to the limitations of this split, and therefore the problematic assumptions of not allowing for "reasoned and developed rationales" to be part of other, non-alphabetic modes of expression, she also participates in the same uncritical grouping

as Hesse. They both associate playful texts (those that are "frivolous," "entertainment," "self-sponsored," or "ludic") with degraded, less valuable communication. Valuable texts are "serious," "sanctioned," "obliged," and "rigorous." Although I agree with Selfe's point that just because a text is visual, or aural, or both, does not mean it also has to be less serious or reasoned, what I take issue with is the idea that playful texts are not as valuable as serious ones. As I will discuss later, play is critical for learning, creativity, innovation, and experimentation—all things that I think both Hesse and Selfe would agree we need more of in the composition classroom. To be fair, I believe if asked directly, both Hesse and Selfe would agree that playful composing does offer a valuable contribution, but their discussion serves as an illustration for the role play seems to have in discussions of digital media. Play has often been generalized and side-lined as not valuable to academic work, and it has often been cited as one of the reasons for dismissing digital texts (Hesse).

However, despite the enthusiasm of scholars like Selfe for the promises of multimodal texts, little seems to be known about the students' experience of these assignments. Because it is very difficult to elicit playful responses from students in the classroom setting where their presence and participation is mandatory, it is unclear whether students experience these assignments as playful (Anson and Miller-Cochran 41). The compulsory nature of the classroom creates a significant barrier to creating a scenario similar to the experience of creating a self-sponsored text. Despite these barriers, many instructors claim based on anecdotal evidence that students enjoy these assignments, that students are inspired by them. However, no direct information about

the students' experience exists. In response to this lack of information, this dissertation aims to gain a clearer picture of the student's experience of multimodal assignments. Do students find these assignments to be playful, creative, or engaging experiences? And do they view these assignments as related to and supportive of the more traditional goals of the course?

I attempt to answer these questions using a collective case study of the use of multimodal assignments in the writing classroom. Four different cases were studied, each case consisting of a different course using a different digital technology for a different multimodal assignment. The four technologies that I studied were a mind mapping software called *Novamind*; the web mapping technologies, *Google Maps* and *Google Earth*; and the virtual environment *Second Life* (*SL*). I will discuss the sampling procedures in more detail later, but briefly these cases were chosen because they are multimodal technologies, which, depending on the technology, combine text; a variety of different types of images including 3D images, spatial information, graphics, maps, and photography; and in some cases sound and video. At the time that the study was conducted, I was working at the Digital Writing and Research Lab, so I was surrounded with instructors using multimodal technologies in their writing classrooms. Thus, my cases selections were influenced primarily by the willingness of instructors to participate, and secondarily by my overall goal of having a broad range of technologies represented in the study and by my sense of which technologies were popular with instructors. Ultimately, although the cases were selected based upon the instructors' willingness to participate, they also represent a broad range of technologies (as well as courses and

assignments), all are technologies that have enjoyed some level of popularity amongst instructors, and all are technologies that show potential for play.

It was important that the cases represent a broad range, differing in terms of the technology itself, as well as the course and assignment in which it was used.[1] Since the purpose of the study is simply to better understand the students' experience of multimodal assignments, and to do an exhaustive study of the entire range of multimodal assignments being used by writing instructors would be impossible, a small number of substantially different technologies and assignments were selected in order to achieve the study's purpose.

Beyond representing a broad range, they were also chosen because they are popular amongst instructors and can be used for a variety of pedagogical purposes. My purpose with these two criteria was again to inform a general understanding of the students' experience and to avoid technologies that are not being widely used. Finally, they had to exhibit the potential to provide a playful experience for students because my intention was to test the students' experience of assignments that were intended to be playful. If the technology did not exhibit characteristics that could arguably induce a play experience, it seemed unlikely that the instructor would have a play-related purpose in mind for implementing the technology in the classroom. In all four cases, that playful potential was largely based on the significant visual components of the technologies. Since the visual nature of all four of the technologies seemed to be such an important

[1] *Google Maps* and *Google Earth* are similar technologies, but I consider them to be two different examples of the broader category of web mapping tools. Thus I have representatives from the three larger categories of mind maps (*Novamind*), web maps (*Google Maps* and *Google Earth*), and virtual environments (*SL*).

common denominator, I also used a third research question to address that aspect of the students' experience in particular: What role does the visual nature of these technologies have in the student's experience of using them or in their pedagogical effectiveness?[2] Before I go into more detail about the characteristics of these technologies and the impact of their visual characteristics, I would first like to look at play's position in the discussion surrounding the use of digital media assignments in composition courses, the history of play in composition and rhetoric, and the relationship between play and work.

PLAY IN RHETORIC AND COMPOSITION: A BRIEF HISTORY

Although play has received more attention with the rise of the use of digital media in the classroom, it is actually an old issue that has been a basic part of the conversations in rhetoric since the origin of the field. Like many things in rhetoric, this one can be traced back to Ancient Greece. In his seminal text on the role of play in culture, *Homo Ludens*, Johan Huizinga argues that the Ancient Greeks perceived of rhetoric playfully, as competition, exhibition, or art (146-47). For the Greeks it was a clearly playful activity, governed by rules and taking specific forms as any serious competition does, but also rewarding creativity and improvisation (Huizinga 148-49). Even Plato, who viewed rhetoric as mere trickery and show, based the form of his dialogues on comedies, and the game-like structure of those comedies can be seen in the back and forth exchanges of the speakers (Huizinga 149). However, according to Huizinga, after Aristotle the playful

[2] The data was collected for the *SL* case was collected first, and the data for the other three cases was collected during the following semester. After analysis of the *SL* data and consultation with advisors, the third research question about the impact of the visual nature of the technologies was added. Because of this, there is no data for this visual aspect for the *SL* case.

approach to learning fell out of favor and was replaced by rigid, formulaic rhetorical training: "the level of philosophic thinking sank; emulation carried to extremes and narrow doctrinairism won the day" (151).

Jumping ahead to the modern revival of rhetoric in composition studies, play also appears in composition during the early years of that field. It manifests as a call for focus on student-engagement, creativity, and the rejection of writing pedagogy based on standardized models and formulae. Published in *College English* in 1967, Charles Deemer's "English Composition as a Happening" was one of the first texts in the burgeoning field of composition to argue that the composition classroom should be a place for creativity, experimentation, surprise, and innovative thinking. In short, for play. Deemer's text, which is playful in form as well as in content, charges that composition classrooms are "inactive" spaces for students, where teachers speak and students listen (121). Deemer's antidote is "the happening." The Happening is a concept that Deemer borrows from the Happenings movement in modern art, which took art out of the museum and made it a participatory experience for both artist and audience. Deemer offers Susan Sontag's explanation that a happening creates "an asymmetrical network of surprises, without climax or consummation," and I interpret a Happening as basically a playful experience. A Happening is intended to disrupt the classroom hierarchy, repositioning the teacher, along with the students, as a participant in the learning. The critical difference between teacher and student is that the teacher simply has more experience with which to formulate their response to the Happening (Deemer 123). However, the central purpose of a Happening is to elicit shock and discomfort, resulting

in true engagement and thought, or as Deemer explains, "Clear writing and clear thought follow only after clear experiences" (124). Without true experiences, the students have little to think or write about. Although Deemer never uses the term play, his hope for the Happenings is that they induce creativity, innovation, and deep engagement in the students, all basic characteristics of play.

Deemer's project was taken up again in 2002, when Geoffrey Sirc published his book which is also titled, *English Composition as a Happening.* Sirc describes his book as a cover of Deemer's article, and it makes a similar argument about the role that playful experimentation and creativity should have in the composition classroom. Sirc looks back nostalgically at the period when Deemer's article was published and when the Happenings movement occurred. According to Sirc, compositionists during that time were influenced by the radical artists of the Happenings movement, and were "caught in the same frustrating dilemma the Happenings artists were—their desire to do interesting work thwarted by the constraints of conventional spaces, forms and materials" (5). Sirc terms this parallel movement in composition, "Happenings composition." In a narrative similar to the one Huizinga tells about rhetoric, Sirc argues that the emphasis on experimentation, on creating interesting and engaging compositions during the late 60's and early 70's, has been lost. He points to Bartholomae's work as indicative of the shift back toward modeling "great works," and, in Sirc's view, turning composition classrooms into museums: "As instructors, our classroom activities combine the docent's tour (explaining how the great masterpieces are put together) with the hands-on workshop of family day (now that the gallery-goers understand how the masterpieces work, they get

to try to make one)" (4). Sirc's goal is to look back at these moments of creativity and determine how to put experimentation and openness about form, genre, and medium back into the composition classroom where the problem should be, "not the conventional, but rather how one does something unconventional, sublime, exciting" (8). Sirc wants to emphasize process, "the unforseen possibilities of writing, the process, the play" (241). He values process not as a means to a polished product—"even Elbow threw out all that lovely, foolish prewriting, seeing it merely as steps to the official formal version, 'the processes that should occur on the way to that final draft' (*Writing* 7)" —but process for its own sake (240).

Where Sirc's discussions of the Happenings movement begin to have relevance for those interested in digital media is in their perspective on medium and form. For the Happenings artists and compositionists, "Any material and technique was allowed if it would produce something exciting. Form and content were equally open…'A work needs only to be interesting'" (Sirc 18). To this end, Happenings artists often used commonplace, found objects as their materials. These stumbled upon bits of discarded stuff became the inspiration for and the content of their works. For Sirc, digital texts offer similar inspirational possibilities:

> ...email messages, list-posts, MOO logs, and e-conference transcripts [are] seen as relatively worthless little drips and drools of discourse when compared to formal assignments. But those liquid words, mere spit or bile forming itself, they certainly can shimmer, can't they? In their seeming *bassesse*, light is caught, it glistens, and for a moment, perhaps, an epiphany. (283)

Today Sirc would ask, "What can be made of these facebook status updates? Of these youtube videos and comments? Of these flickr photos and their captions?" For Sirc, digital media literally offers a world of found-objects ripe for discussion, inspiration, revision, and appropriation. In addition, like many instructors during the 90s and early 2000s, he found synchronous chat to be a useful tool for eliciting more lively, genuine discussion from students. Sirc explains that programs like synchronous chat

> can channel (and capture) a group of students writing off-the-top-of-their-heads. It provides a textual moment that was never there before and may never be there again, one unmediated by the acculturated crud of received formal ideas regarding writing; maybe it's merely the passage of a few people through a rather brief moment in time, but it's a moment that can be fully inhabited more than most writing assignments. (197)

It is these kinds of experiences that Sirc argues will capture the passion and desire in students (197). Although it seems that Sirc's project is all play and inspiration, with little emphasis on actual writing instruction, he explains that his "challenge...is to have these young writers burnish…their own form of powerful *pensee*, while, certainly, at the same time learning some kind of basic prose styling to help them avoid verbal pitfalls at the university" (268). That challenge remains, but Sirc's work represents one of the first major attempts to understand the importance of digital media in the discussion of play as pedagogy.

Although Sirc focuses on the late 70's and 80's as the point at which composition lost its playfulness, both he and Albert Rouzie acknowledge that play's role in the

classroom has been an issue since composition's origins. In his book *At Play in the Fields of Writing*, Rouzie points out that a lack of play is part of how composition has been defined in opposition to English. English has always been associated with creativity and art, and composition has been associated with the utilitarian acquisition of writing skills (Rouzie 33). Therefore, composition is by nature not play, but work. Rouzie argues that a composition pedagogy using digital media is a way to heal the split between work and play and to create a pedagogy that values *both* work and play as important aspects of composition. He calls for the use of "serio-ludic rhetoric," which uses playful rhetoric to make a serious point. The work of Huizinga, Deemer, Sirc, and Rouzie illustrates the narrative that we tell and retell ourselves about play's role in composition and rhetoric: at some point in the past, classrooms were playful; they fostered creativity and experimentation. More recently, digital media has often been touted as the way to bring play back into the classroom. However, we still don't clearly understand what impact digital media assignments have on the students' classroom experience.

PLAY: THE PROBLEM OF DEFINITION

But first, what is play? The concept of play is often only vaguely understood and relegated to the inconsequential activities of children. The work of Brian Sutton-Smith illustrates that definitions of play are highly dependent on context, with different fields using wildly differing definitions and rhetorics to discuss play. As rhetoric and gaming scholar Ian Bogost has said, "Play is a complex concept with a long and arduous intellectual history in numerous fields" (42). For my purposes, I will look closely at

definitions from psychology because I am mainly interested in what circumstances allow people to enter a play state. However, I will also use these definitions to consider how learning is enhanced by play and the relationship between play and work. Psychologist and play theorist, Stuart Brown, offers a detailed definition of play. He explains that play's basic properties are that it is apparently purposeless (or done for its own sake), voluntary, inherently attractive, causes a loss of awareness of time, diminishes self-consciousness, makes us open to improvisational potentials, and causes us to want to continue the activity (17). Some of these characteristics match up with common understandings of play (that it is voluntary and renders us unaware of the passage of time). But other aspects reveal its close relationship with work (or what work can ideally be) and creativity. As Stuart Brown notes, the fact that play diminishes self-consciousness, fosters improvisation, and makes an activity attractive explains why both business executives and educators alike have been trying to tap into play's ability to enhance learning and creativity. He also points out that play takes on a variety of forms ranging from very simple to complex activities: body and movement play, object play (the manipulation of objects for fun), imaginative play (day-dreaming or fantasizing), social play (friendship/bonding activities, rough-and-tumble play, and celebratory or ritual play), storytelling and narrative play, and transformative-integrative or creative play (experimentation that frees us from established patterns). Thus Stuart Brown's work broadens and complicates the common understanding of play as a fun activity, usually involving a game.

Stuart Brown's definition challenges what many play scholars describe as the play/work split in our culture. As Shultz Colby and Colby explain, "In post-industrialized societies, the instantiation of capitalism has led to a 'crises of leisure time' (Schor, 1992, p. 7) to the extent that games, play, and leisure are pastimes not only separated from work but not held in the same esteem" (302). As Rouzie notes, this split extends into the classroom where play and learning are also viewed as mutually exclusive: "Conservatives decry the use of play as pandering to demands for entertainment rather than the hard work of learning. The conservative position appears to assume that play is undifferentiated, frivolous, and, therefore, irrelevant to learning and literacy practices" (26). The one area where the close relationship between play and learning has been taken seriously is in the education and cognitive development of children. However, recently there seems to be more interest the role of play in adult learning at work and in higher education as part of the creative process, especially in the fields of gaming and business (S. Brown; T. Brown; Gee).

As Stuart Brown argues, play and work, rather than being opposites, are actually complements to each other. Without a playful aspect to work, it degrades into unfulfilling drudgery (S. Brown 126). On the other hand, not all aspects of play are fun; some, like the intense focus exhibited by those immersed in playful or creative tasks, look a lot like work (S. Brown 136). What play and work have in common is creativity, and it takes a low-stakes, playful atmosphere to elicit the kind of creativity that both educators and business executives are continually trying to get out of their students or employees (S. Brown127).

Stuart Brown's vision of the relationship between play and work is further supported by the work of psychologist Mihaly Csikszentmihalyi. A prominent figure in the study of positive psychology, Csikszentmihalyi's work examines why people engage in autotelic activities. He explains that "An activity was assumed to be autotelic (from the Greek *auto* = self and *telos* = goal, purpose) if it required formal and extensive energy output on the part of the actor, yet provided few if any conventional rewards" (Csikszentmihalyi 10). Csikszentmihalyi's initial work studied chess players, rock climbers, surgeons, composers, basketball players, and dancers as examples of individuals who devote much of their lives to autotelic activities. Because many of these activities are not commonly identified as play, his work is extremely interesting for educators hoping to achieve some of play's benefits in the classroom. For example, surgery is generally accepted to be work, not a game or playful activity. Surgery is also clearly not a low-stakes activity; however, the surgeons that Csikszentmihalyi contacted all felt that they received enormous intrinsic rewards from their profession and many agreed that they would do surgery even if their compensation was greatly reduced (126). Thus Csikszentmihalyi's research helps us to better understand how play can happen in a relatively high-stakes environment like the classroom that is commonly associated with work.

Based on responses to surveys and interviews, Csikszentmihalyi identified the basic characteristics of an autotelic activity, and he uses the term "flow" to describe the feeling or state produced from engaging in an autotelic activity. Stuart Brown might identify flow as just another term for a play-state, and many of the characteristics of and

criteria for flow overlap with his definition of play. However, I view Csikszentmihalyi's flow concept as describing the ideal relationship between work and play, or as he described it, "the bridge" between the two (5). For a person to experience flow, the activity must present "constant challenges" (Csikszentmihalyi 36). These challenges "can be of two types: the challenge of the unknown, which leads to discovery, exploration, problem solution, and which is essential to activities like composing, dancing, climbing, and chess; or the more concrete challenge of competition, which is important in activities like basketball" (Csikszentmihalyi 30). The challenges must also be "evenly matched by [the participants] capabilities" (Csikszentmihalyi 50). The activity must challenge the participant enough to maintain their interest but not exceed their skills, causing anxiety and worry (Csikszentmihalyi 36). Related to this matching of skills and challenges is that during flow a person feels that he "is in control of his actions and of the environment" (44). Finally, activities that produce a flow-state were also described as separate from everyday life; participants explained that "…they gained a peculiar experience from it, an experience that is not accessible in 'everyday life'" (35).

Although many of the activities Csikszentmihalyi studied to formulate the concept of flow would not be typically identified as play, much of his definition of flow does match Stuart Brown's definition of play. In Brown's view, play is apparently purposeless (or done for its own sake), voluntary, inherently attractive, causes a loss of awareness of time, diminishes our self-consciousness, makes us open to improvisational potentials, and causes us to want to continue the activity (17). Some of Stuart Brown's characteristics of play don't match though. None of the activities studied by Csikszentmihalyi are

"apparently purposeless." Chess or basketball players may get an ego boost from the competitive aspects of these activities, while dancers, composers and certainly surgeons are engaging in these activities to make a living. In addition, many flow activities are not "voluntary" or "inherently attractive": "Ideally, flow is the result of pure involvement, without any consideration about results. In practice, however, most people need some sort of inducement to participate in flow activities, at least, at the beginning, before they learn to be sensitive to intrinsic rewards" (Csikszentmihalyi 42). Thus, not all flow activities are engaged in voluntarily, and it may take some time before the participant experiences play, or flow, during the activity. The same is true for the common requirement that play be low-stakes:

> One of the most stubborn distinctions made between play and work is the assumption that the former has no real-life consequences; mistakes in play carry no penalty….If this were a true distinction, the flow model could not be applied to surgery, since performance within that activity carries life-and-death consequences. But it is simply not true that 'play' is an isolated sphere in which nothing can go wrong. (Csikszentmihalyi 138)

Csikszentmihalyi's work confirms that adults play both at work and in their leisure activities. But for all of these activities, participants receive varying levels of both intrinsic *and* extrinsic rewards. His research allows us to take a closer look at work, and to better understand what Stuart Brown means by statements like "work and play are mutually supported" (126). After looking closely at the definitions offered by Stuart Brown and Csikszentmihalyi, it is difficult to view play as simple, frivolous activity.

Play is a partner of work, and together they support the all-important creative faculties. As Stuart Brown says:

> Though we have been taught that play and work are each the other's enemy, what I have found is that neither one can thrive without the other. We need [sic] newness of play, its sense of flow, and being in the moment. We need the sense of discovery and liveliness that it provides. We also need the purpose of work, the economic stability it offers, the sense that we are doing service for others, that we are needed and integrated into our world. (126)

Play can be very serious and high-stakes, and it can also be experienced during mandatory or compulsory activities. With this more nuanced definition of play in mind, it becomes clearer that, despite the barriers for play encountered in most classroom settings, playful learning is certainly possible.

It is also worthwhile to consider discussions of play and creativity occurring in business because adult play has attracted considerable attention in that field. Not surprisingly, employers understand how important creativity and innovation are to the success of their business and often go to great lengths to foster these characteristics in their employees. They have come to realize that in order to elicit innovation and creativity from their employees, they need to be creating circumstances that are conducive to play. Possibly the most famous example of play as innovation is Google's policy of offering its engineers the option of taking 20% of their time to work on a project that is both company-related and personally interesting. In his recent TEDtalk,

CEO of the design firm IDEO, Tim Brown, explains how his company uses play to foster creative thinking, and offers his own vision of the relationship between play and work. For Tim Brown the two activities are part of one process. When working on a problem, we shift back and forth between play and work. The play portion of the process is the divergent, generative mode where brainstorming and idea generation occurs. Work is the convergent, problem-solving mode that is more serious. During this serious phase of an activity, ideas generated during play are culled and paired down. Tim Brown argues that it is important to be able to move between these two modes, and that we need a better understanding of the relationship between play and work, as well as a more nuanced version of play in order to take advantage of its benefits for creative thinking. Echoing Selfe's argument about multimodal and traditional assignments, Tim Brown explains that relationship between play and work should be viewed as both/and, rather than either/or.

What I have taken from these discussions of play from psychology and business is that most activities involve both play and work. I envision play and work as the end-points of a continuum; activities can be placed somewhere on the continuum to illustrate the levels of both work and play involved. At the poles of this continuum would be the "unfulfilling drudgery" that Stuart Brown describes, and pure, unproductive play on the other. Where an activity stands between those two poles of pure play and pure work has to do with the person participating in the activity and circumstances of that participation. For example, fixing a car is play for some people, work for others, and the experience would also be affected by the circumstances. Is the car being fixed after breaking down

in the middle of a road trip, or on a relaxing Saturday afternoon? When we conceive of the relationship between play and work in this way, it becomes clearer how play might be injected into the classroom, and encouraging and facilitating play in the writing classroom no longer seems unrealistic or inappropriate.

PLAY, LEARNING, AND DIGITAL MEDIA

In a culture that so clearly and rigidly separates spaces for work and play, digital environments have the unique characteristic of being space that is perceived as appropriate for both work and play. As Rouzie points out, because we are "oriented by the culture toward both working and playing with computers" (workers simultaneously surf the internet for fun and finish up a memo; students instant message their friends and do homework), "the internet has had a pronounced effect on the traditional dynamics of the work/play split" (69-70).

In effect, the work/play split breaks down and is blurred in digital environments. For example, in "Confronting the Challenges of Participatory Culture: Media Education for the 21st Century," a white paper from MIT's Project New Media Literacies, Henry Jenkins and his colleagues also find a natural affinity between work, play, and digital spaces. Their purpose in the white paper is rather serious: they argue that students need to be taught "a set of cultural competencies and social skills" that will enable them to negotiate "the new media landscape" (6). The first skill listed is play, defined as "the capacity to experiment with one's surroundings as a form of problem-solving" (Jenkins et al. 6). Problem-solving is commonly associated with the realm of work, and so from the

outset the notion of play here includes work-related tasks and goals as it did in Stuart Brown's and Csikszentmihalyi's definitions. And it does not stop there; play is immediately followed by simulation and performance, both important types of play. For Jenkins et al., play and work bleed together when it comes to digital media: one cannot perform the work of negotiating digital spaces without using these playful strategies.

Rouzie offers a specific example of how play and work meld together in digital environments and how those environments are well-suited for fostering a playful approach to work. Here is how he describes his students' reaction to composing hypertext:

> [F]or a number of reasons, many students approached writing hypertext more playfully than they did essays. The medium was young and experimental and instructors framed it that way, giving students permission to introduce playfulness into their projects. Learning how to use the software seemed to require some playing around as well. Finally, many of the projects were collaborative. Working in groups led to collaborative interplay that informed the projects. (6)

This description touches on some of the basic characteristics of play described by Stuart Brown, who argues that a sense of investigating the unknown, or an atmosphere of experimentation, is an essential element of play (141). Additionally, in order to engage in play at all, people need to feel that they are testing boundaries in a safe environment. These characteristics of play are reflected in how Rouzie's students felt about hypertext: the newness of the medium lowered the stakes of its use, creating a safer environment

than much of the grade-driven, high-stakes writing occurring in traditional assignments/classes.

For Rouzie, play is an essential part of learning because playful testing is the best way to learn about an idea, tool, or scenario. This testing is exactly what Rouzie's students were doing. Because it was explicitly experimental, Rouzie's students felt free to take risks and play with the medium. And in the process they learned about that medium. Thus, playful learning has two outcomes: 1. students play with what can be produced by the program, and 2. they play with the program itself in order to learn how to use it. Therefore, in Rouzie's case, a playful approach helped students to learn to use the tools *and* determine what they should best be used for. Thus, while learning to use and composing with digital media, play and work meld together and foster experimentation in much the way described by Stuart Brown, Csikszentmihalyi, and Tim Brown.

Although most scholarship on play and learning is limited to the study of childhood education, with the rise of digital media and its acceptance as a place for both work and play, scholars have begun to consider how digital spaces can help educators to reap the learning-benefits of play. Much of this sort of scholarship comes from the field of gaming or games studies. Possibly the most influential figure to date in the discussion of games and learning is James Paul Gee. Although my project here investigates the playful possibilities of digital media and not necessarily at games, Gee's work is relevant in that, like Stuart Brown, Csikszentmihalyi, and Tim Brown, Gee is trying to understand what circumstances allow people to enter into a state of play and then how those states

(and their characteristics) reflect good learning principles or how they might be mapped onto traditional learning environments.

In "Learning and Games," Gee looks closely at game design, which he notes is all about teaching players how to navigate the complex system of a game while simultaneously engaging the player in that game. Gee argues that much of modern learning theory matches up with the core principles of game design. As Gee explains it, modern learning theory holds that humans learn through experience—only through experience can information be stored in our long-term memory. Games rely on learning through experiences as well; gamers learn how to play a game by playing it, by experiencing it. In addition, Gee points out that in both modern learning theory and game design, learners and gamers need the following: experiences that are "structured by specific goals," the opportunity to apply previous experiences, immediate feedback from peers or mentors on their outcomes, and the space to fail without serious consequences (1, 34). Gee explains that, "when the above considerations are met, people's experiences are organized in memory in such a way that they can draw on those experiences as from a data bank, building simulations in their minds that allow them to prepare for action" (22).

Gee goes on to explain how simulations and modeling, essential parts of any video game, are two of the most important tools for learning. He explains that "different types of models capture different properties of the thing being modeled and allow different sorts of things to be tried out and learned" (27). Models are simpler versions of the thing or system being modeled and stress some characteristics over others (Gee 27). They allow a learner or gamer to gain facility at manipulating a system without the

serious consequences of real-life. Simulation is a broader concept. A simulation may contain many different models, and a simulation also responds to input from an outside source. However, while models allow a user to focus on a particular aspect of what is being modeled, simulations do not. Instead, the strength of a simulation is that it allows users to engage in "a sort of 'embodied empathy for a complex system' wherein a person seeks to enter imaginatively into a system, all the while seeing and thinking of it as a system, rather than as a group of local or random events" (Gee 32). Both models and simulations seem to promise much for the college classroom and, as Gee points out, both are already standard teaching tools in the sciences and in games. Simulation and modeling can be both types of and components of play. Stuart Brown and Csikszentmihalyi would agree that modeling and simulation are part of the low-stakes character of play and common characteristics of many flow activities.

The low-stakes nature of models and simulations is also related to the purpose of play. Gee's understanding of play's purpose is the same as Stuart Brown's. Stuart Brown says that scientists who study play have long thought that play is practice for real life. However, the most recent research shows that its purpose is more general than that. Play allows us to test out the possibilities of the world around us—or in Gee's words "run simulations." Stuart Brown says, "In play we can imagine and experience situations we have never encountered before and learn from them. We can create possibilities that have never existed but may in the future….We can learn lessons and skills without being directly at risk" (34). This description of the purpose of play also brings to mind Rouzie's description of his students using hypertext (experimenting without being at risk)

and of Tim Brown's ideas about how to foster creative thinking in the workplace (imaging possibilities we have never encountered before). However, Gee notes that the scenarios Rouzie and Tim Brown describe are not typical of the standard classroom. He says, "humans and other primates find learning and mastery deeply, even biologically, pleasurable under the right conditions, though often not the ones they face in school" (24). Learning can be a pleasurable, playful experience under the right conditions. Thus, the challenge is to alter some aspects of the classroom in order to foster the learning benefits of play.

All of these scholars—those focused on play as a psychological state, those focused on the connection between play and learning, and those focused on the role of play in the experience of digital media—have contributed to the concept of play that both guides this study's design and the evaluation of the data. However, it relies most heavily on the definitions of play and flow provided by Stuart Brown and Csikszentmihalyi. Table 1.1 below lists the characteristics of play described by Stuart Brown and Csikszentmihalyi that will be used throughout the rest of the dissertation to evaluate the students' descriptions of their experiences in each case, and to determine to what extent those experiences were playful. This will function as the study's definition of play. The table is also meant to illustrate how certain concepts overlap across the various theories discussed above.

Table 1.1. Characteristics of play for the purposes of this study

Concept	Origin	Characteristic
Play	S. Brown. Sirc, T. Brown	Openness to improvisation (creativity)
Play	S. Brown, Jenkins	Use of experimentation to problem-solve
Flow	Csikszentmihalyi, Rouzie, Sirc	Provides a novel experience
Flow	Csikszentmihalyi, Gee	Intense focus
Flow	Csikszentmihalyi, Gee	Presents constant challenges
Flow	Csikszentmihalyi, Gee	Participant's skills are evenly matched with challenges
Flow	Csikszentmihalyi	Feelings of control
Play	S. Brown	Desire to continue
Play	S. Brown	Diminished self-consciousness
Play	S. Brown, Rouzie	Lowered-stakes environment

The table also illustrates that my definition of play relies heavily on flow. Although play and flow are slightly different concepts, I have found flow to be helpful because of its focus on the relationship between play and work, which is critical in this study that seeks to understand how playful strategies are perceived in the work-oriented environment of the classroom. Some basic concepts of play have been modified or excluded entirely from this definition. Stuart Brown's stipulation that play must be voluntary has been excluded because this often does not apply to the classroom setting. Stuart Brown's other criteria that play must be low-stakes, which seems impossible in the classroom, has been toned down to "lowered-stakes" as a compromise based on Rouzie's claim that the stakes

of the classroom are lowered in digital environments as well as Csikszentmihalyi's assertion that play can occur in high-stakes scenarios.

OVERVIEW OF THE STUDY

Despite all of the evidence of the connection between play and learning coming from the fields of psychology, business, and gaming that I have discussed here, as well as the general consensus about the inherent playfulness of digital spaces, little is known about individual students' experiences of digital media assignments. There is much anecdotal evidence from teachers in diverse fields that students enjoy composing with digital media, analyzing digital media, and learning in digital environments. But what is the students' experience of these assignments really like? This is the central question of this dissertation. To answer it, I asked the following three research questions in a collective case study of four multimodal assignments: Do students find these assignments to be playful, creative, or engaging experiences? Do they view these assignments as related to and supportive of the more traditional goals of the course? And what role does the visual nature of these technologies have in the student's experience of using them or in their pedagogical effectiveness? Again, the four technologies I have studied are *Novamind*, a mind mapping software; the web mapping technologies, *Google Maps* and *Google Earth*; and the virtual environment *Second Life.* The criteria that I used in choosing them were that they were multimodal technologies; they represented a range of technologies, assignments, and writing courses; they were popular among instructors; that they could be used for various pedagogical purposes; and they showed promise for

facilitating play in the classroom. First, I will introduce briefly each technology and then go into further detail about their selection criteria.

Mind maps use a combination of words and images to create idea maps that allow users to represent the relationships between ideas visually.

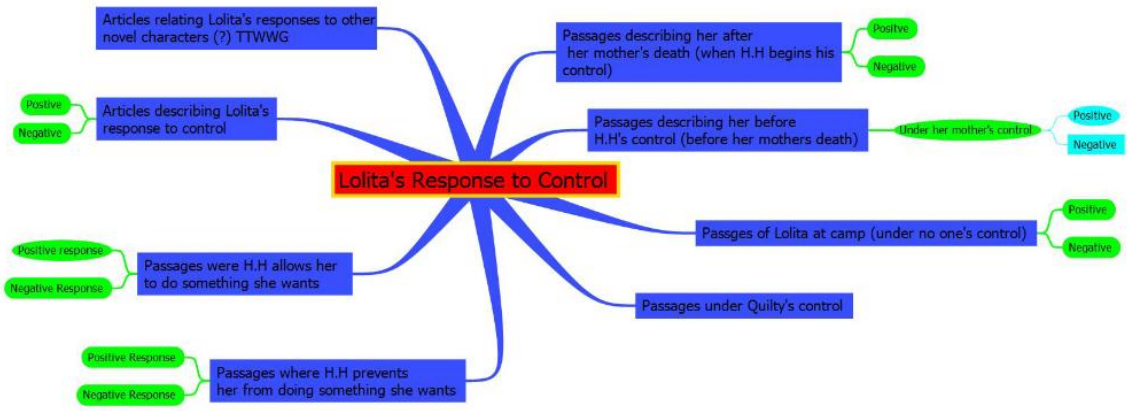

Fig. 1.1. An image of a student's mind map.

Google Maps and *Google Earth* are both web mapping technologies, but offer users different capabilities. *Google Maps* enable users to create their own maps by creating placemarks that include text, images, graphics, video, and hyperlinks; drawing lines and boundaries; and ordering placemarks to control the way a viewer experiences the map.

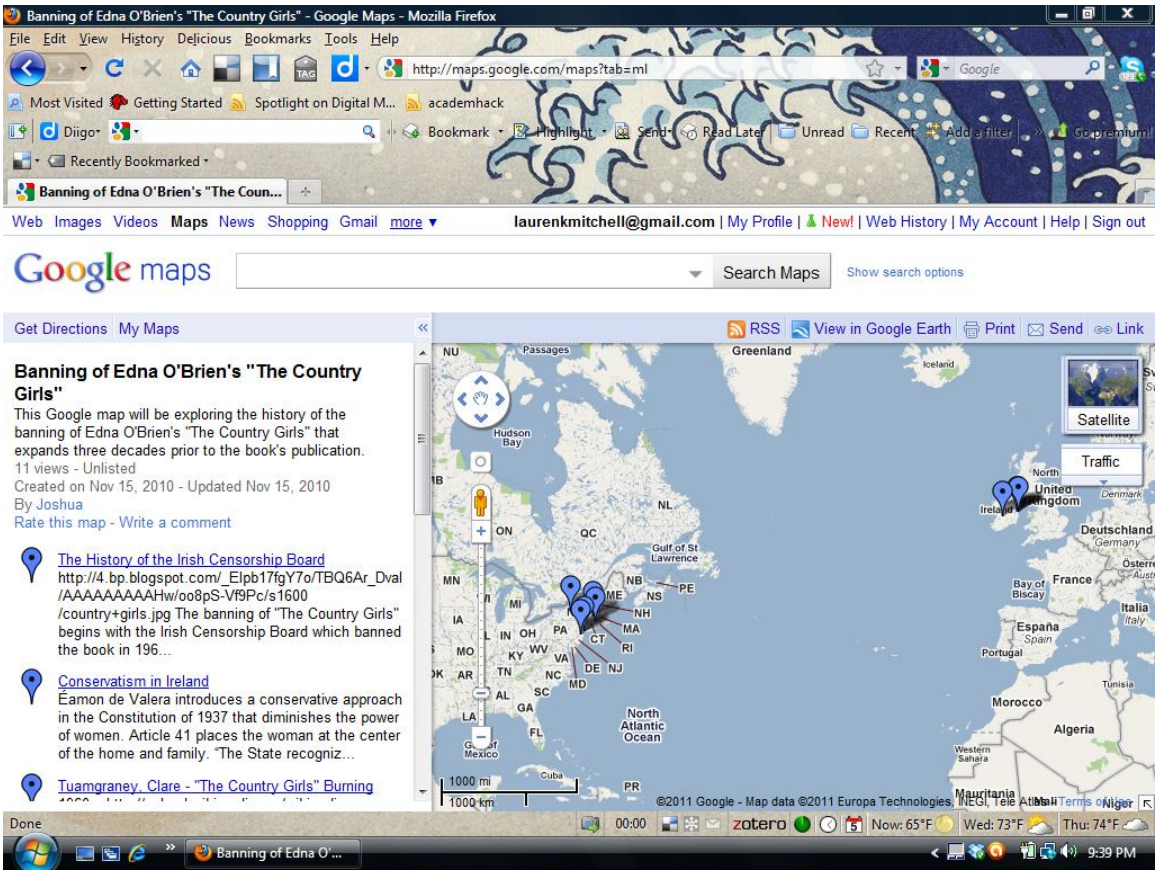

Fig. 1.2. This screenshot shows a student's *Google Maps* project

Google Earth is a virtual globe and map that provides a more immersive experience for users via 3D images of terrain and buildings in many areas. *Google Earth* also offers a variety of ways to allow users to add their own content to the map that can be seen by other users.

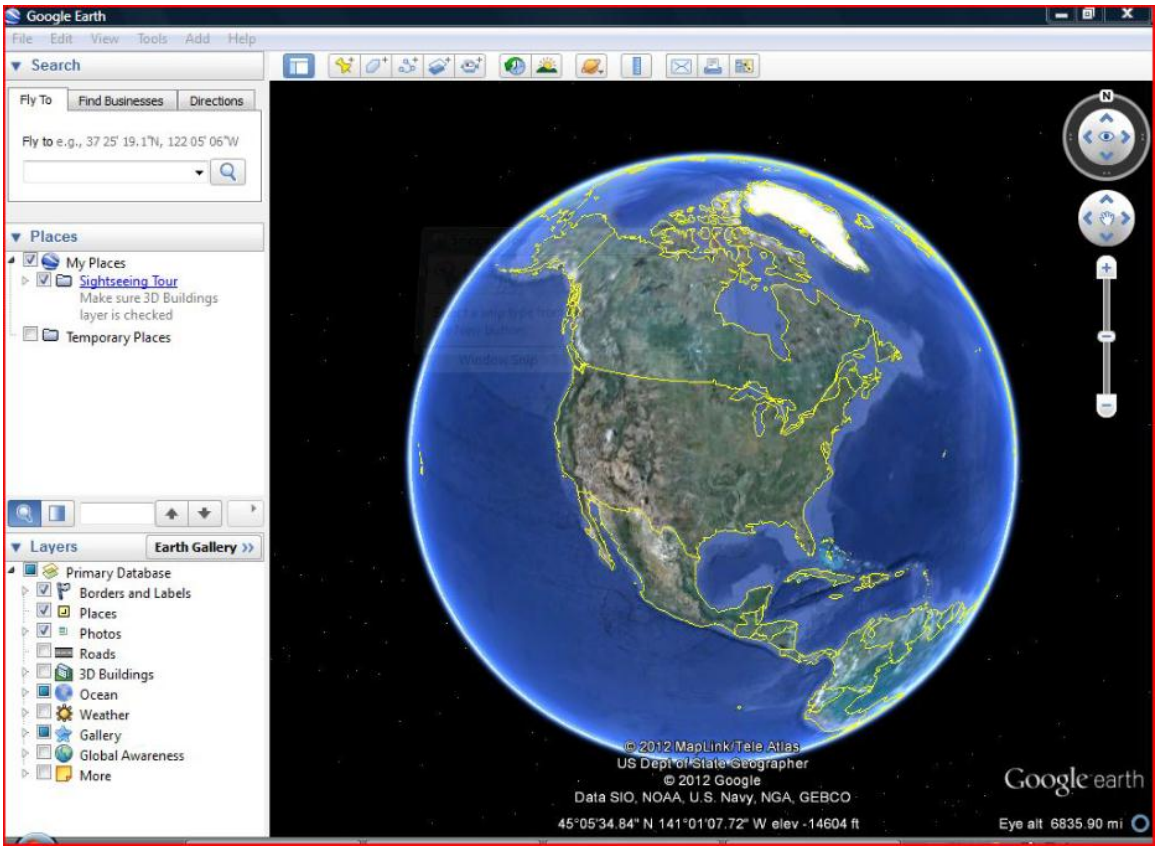

Fig. 1.3. Screenshot of *Google Earth*

Finally, *Second Life* (*SL*) is a virtual environment where users create avatars to explore and interact with other avatars in the *SL* world. *SL* is remarkable in that it enables users to modify their avatars and the *SL* space in almost any way they can imagine. Although the students in the *SL* case used it to play *Rhetorical Peaks,* a rhetoric video game created by a project group of the Digital Writing and Research Lab (DWRL) at UT Austin, the focus of the study was their experience of *SL*.

Fig. 1.4. Students using *Second Life*.

As discussed above, all of the technologies had to be multimodal, and each one incorporates at least text and a variety of different types of images, and some of them are also capable of incorporating video and sound. In addition, their popularity amongst instructors was important because I wanted to look at technologies that many teachers were finding useful. I wanted to avoid technologies that hadn't been well-established as pedagogically useful or that were being used by only a few instructors based on their personal interests or idiosyncrasies. I was privileged to be doing my research while I was a staff member in the DWRL at the University of Texas at Austin, so I had the advantage

of having access to a group of instructors who were invested in incorporating new technologies into their pedagogies. It was clear to me that mind maps, *Google Maps,* and *Google Earth* were amongst the most popular technologies in the Lab based on my observations of attendance at workshops on these tools, discussions with individual instructors, and the numerous lesson plans using these tools that were being produced by staff members. My assumptions were confirmed after looking at the results of the 2010 exit survey, which is completed by all Lab staff members at the end of each academic year. Responses to that survey indicate that 73 percent of instructors had used *Novamind* in their classrooms and 60 percent had used *Google Earth*. There is no information about *Google Maps* because the survey only asked instructors about which software applications they had used, and *Google Maps* is a web tool, not a software application. Despite this lack of information, I feel comfortable assuming that *Google Maps* is probably used even more frequently than *Google Earth* because it is significantly easier to use—most instructors begin using *Google Maps* and later graduate to *Google Earth* if they want more sophisticated capabilities. Beyond the Lab, as I will discuss in Chapter 2, all three of these technologies have garnered the interest of educators and researchers from a variety of fields. *SL*, however, is not commonly used by Lab instructors. Despite this, interest in the pedagogical possibilities of *SL* has peaked during the past several years, with at least 300 universities conducting research or teaching classes in the space. Although lately there has been much criticism of *SL* as a platform for teaching, *SL* and virtual worlds in general remain a promising area for educators (Young).

I was also concerned that the technologies be pedagogically robust; they needed to be useful for a variety of different assignments. This criteria was important because, similarly to the previous criterion, I wanted to avoid technologies that could only be used in specific pedagogical situations and thus wouldn't represent common uses of digital technologies. Upon first glance, these four technologies seem to have little relevance for the writing classroom, but this couldn't be further from the truth. All of the technologies can be used to teach a variety of core composition, rhetoric, and literature skills. Mind maps offer seemingly endless possibilities in terms of uses for writing instruction. Just a sampling of the lesson plans created by DWRL instructors show that mind maps have been used for brainstorming, organizing papers, revision exercises, analyzing an argument or controversy, and for teaching rhetorical analysis. Instructors have used them as visual aids, as in-class or homework assignments, as presentation tools, and in collaborative assignments. Although it would seem that the dependence of *Google Maps* and *Google Earth* on geographical information would limit their use, they too are used for a wide variety of purposes. Looking again at lesson plans created by DWRL instructors, *Google Maps* and *Google Earth* have been used to teach literary analysis by mapping the locations that are significant to a novel, an author, or a novel's historical or cultural context; to teach rhetorical analysis and argumentation by mapping the migration of an idea, controversy, or phenomenon as a companion to a paper; and to create a stand-alone argument in the map itself. Again, this variety of assignments is based only on the lesson plans conceived by instructors at the DWRL. Finally, *SL* is definitely the most open-ended of all of these technologies and has been used to support learning in a wide-

range of disciplines, from math professors creating sculptures of mathematical concepts and equations to literature professors creating models of Shakespeare's plays.

The final, and most important criterion for choosing the technologies was that they had to exhibit the potential for playfulness. It was important that the purpose of the assignment was related to the characteristics of play. I anticipated that instructors might view these assignments as a new, fun way to get students to think about particular concepts from a different perspective, which play theorists might describe as providing a novel experience that would elicit engagement. However, I did not want to influence the instructor's explanation of the rationale for the assignment and their reflections on the assignment by asking them directly if they had any play-related purpose for the assignment. Thus, the selected technologies need to exhibit the potential for play, indicating that the instructor's purpose might be partially play-related.

Just as it is extremely difficult to define play, it is also difficult to describe what exactly makes something playful. Despite this, I will attempt to describe why these particular tools show promise for fostering play based on the work of the Stuart Brown, Csikszentmihalyi, and Gee. Looking at these technologies in terms of Stuart Brown's work, all of them enable what he calls transformative-integrative or creative play. This type of play is characterized by "enriched circumstances" or "access to novelty," and allows players to transcend normal patterns, resulting in innovation and creativity (Brown 92; "Play Science"). Largely due to their visual nature, all four of these technologies fulfill these criteria by offering new and unusual ways of thinking about and experiencing writing, rhetoric, and literature. Each of these technologies allows the user to visually

consider information that is usually textual, thus offering a different perspective on the material at hand.

VISUAL ASPECT OF DIGITAL MEDIA

In each tool the textual characteristics are secondary to the visual characteristics to varying degrees. Although it has been well established that text is visual in itself, my concern here is with the importance of images, graphics, and spatial and geographic information in the functionality of these technologies. Mind maps are an interesting mix of text and image because the relationships between ideas, which are represented in words, are represented via the placement of different parts of the map. And although most ideas in a mind map are represented in words, they can also be represented by images or symbols. However, using the text-box feature, the user can insert enormous amounts of text to the point that an entire paper could be written into a mind map. Thus, although the mind map represents the relationship between ideas spatially, both text and images have important roles in the map's ways of making meaning.

Text plays a slightly less significant role in *Google Maps*. As is the case for all maps, *Google Maps* uses text, symbols, and images of an area, but in *Google Maps* text is also used to add descriptions to the placemarks. However, images and video can be added to the placemarks as well, creating another level of visual information. In *Google Maps* text plays a significant role, but the main event is the map itself and movement or scanning within the map. The visual characteristics of *Google Earth* function similarly,

but it is arguably a more visual technology in that it provides a more immersive experience via 3D representations of many spaces.

Finally, as an immersive virtual environment, *SL* is almost completely visual. Users navigate and experience *SL* nearly completely visually. The only textual components of *SL* are the chat feature; text on signs or advertisements within *SL*; and note cards, which are offered in various locations to give basic information or instructions. *SL* also provides an even more immersive experience than *Google Earth* because in addition to 3D images, it also includes real-time interactions with other users.

Although visual texts like these have garnered more attention in composition and rhetoric with the advent of digital media, they have been a part of the major discussions in the field for some time. However, Diana George points out much of this discussion in both the journals and textbooks since the 70's has been somewhat problematic in that visuals were seen merely as a method of catching students attention, or of making writing more interesting or more accessible (21). It is telling that these are the same ways discussed earlier that digital texts have often been marginalized and stereotyped. Visual texts and digital texts have been discussed in much the same way in composition, and I believe that it is because of their inherent playfulness. More recently, however, this marginalization has changed. As digital texts have gained wider acceptance, visual texts have garnered more interest, with many scholars positioning visuals as a basic component of any digital text and thus worthy of attention in the composition classroom (Yancey 4, Hock 631; Faigley). Although much of this discussion has centered around the role of

visual literacy, scholars have also attributed the creative and playful tendencies of digital media to its visual components (Faigley; Rouzie).

In psychology and cognitive science, the importance of visual perception in thinking has been well-established for some time (Gardner). Much of this work has been done by Rudolph Arnheim, who argues that "Any act of productive learning consists of an intimate interaction of observation and reasoning" (95). We underestimate the role that the senses, particularly vision, have in thought (Arnheim 94). For Arnheim, visual thinking optimizes the brain's functioning: "Without separating the intellect from sensory experience, visual thinking makes the mind work as a whole. It gives intelligence to vision and adorns the concepts of abstraction with all the colors and shapes of visual experience" (96). Arnheim's revelations about visual thinking partly explain the popularity of technologies like mind maps, *Google Maps* and *Google Earth* in DWRL classrooms, and the interest of colleges and universities in *SL*. These tools take abstract or text-only information and translate it into visual information, offering a way to think about a paper or idea from a new perspective and tapping into the strengths of visual thinking that Arnheim describes. In addition, they support creative play as defined above. The translation of information from one medium to another is the "access to novelty" or "enriched circumstances" that is required for creative play. Studying writing, rhetoric, or a piece of literature usually involves engagement with purely verbal texts. Translating these fields into a visual medium offers the user a completely different, and arguably more playful, perspective on the content.

Mind maps allow users to take almost anything (a novel, a business plan, a paper, a controversy) and create a visual and spatial representation of the relationships between the various parts of that information. Similarly, *Google Maps* and *Google Earth* allow users to create geographic representations of all sorts of information (gas prices, crime statistics, the most popular bars) and enable viewers to consider those issues from a different perspective, which often allows them to take on new meaning. The same can be done with the locations that are critical to a controversial topic or a novel. For example, students mapping the path of a character in a novel through a city might come to realizations about the social or economic reasons why the character visits certain areas of the city and avoids others. These realizations can then serve as the basis for an analysis of the novel as a whole. *SL*, as a virtual environment, was actually created for this specific purpose; it was intended to provide a space for people to translate their ideas into realistic visualizations and immersive experiences. For all of these tools, the experience of using them is challenging and creative (two well-established characteristics of play, see Table 1.1) because there are no clear guidelines dictating the steps of the translation process and users have to experiment with how information is best represented in a visual medium. In this sense, all four technologies ask users to use creativity and experimentation to discover how the content at hand best fits into the new visual medium, or in the case of *SL,* into an immersive environment. Asking students to consider usually written information from a visual perspective supports creative, playful, and experimental thinking about the problem.

Further support for the connection between visual thinking and creativity comes from Paul Messaris, who provides another perspective on why highly visual technologies, such as the ones I am studying, foster creative play. In "Visual Aspects of Media Literacy," Messaris begins by explaining that unlike verbal language, which uses semantics and syntax to convey meaning, visual language is analogical; it conveys meaning through analogy.[3] He offers the example of a photograph of an object to illustrate what he means by analogical. In a photograph, he says, "there is a more or less close analogy between the shapes, colors, and overall structure of the image, on the one hand, and the corresponding features of the real world, on the other" (71). He explains that the same is true for abstract images and conceptual meaning: "analogical representation need not involve any obvious visual similarity between the image and what the image is about." Therefore, Messaris's analysis applies to both the abstract and conceptual images that make up a mind map, as well as the more realistic images used in *Google Maps*, *Google Earth*, and *SL*—all of these technologies are analogical because they are visual. Messaris goes on to explain that anological thinking, which he describes as "involving abstract conceptual relationships between visual forms and real-world phenomena," is necessary for creative thought (72). According to Messaris, "creativity is often…a matter of proceeding by analogy from a familiar situation…to an unfamiliar one….Among scholars interested in the nature of creative thought, analogical thinking is commonly regarded as crucial not only to artistic creativity, but also to scientific

[3] Messaris notes that visual language does "obey semantic conventions," but that those conventions are rarely arbitrary as they are with verbal language (71).

reasoning and discovery" (73). Although Messaris does not argue that verbal language cannot function analogically, his point is that visual meaning is conveyed through analogy and is an important component of creative thinking. Based on Messaris' analysis, it is the visual nature of these technologies that allows users to thinking analogically, and thus creatively and experimentally.

In addition to their creativity, highly visual digital technologies are also interactive and in some cases immersive, which both contribute to a more playful user-experience. At this point, I would like to set *SL* apart because, as an immersive environment, it provides a deeper level of interactivity and immersion for the user than the other technologies. *Google Earth* also has some immersive characteristics that I will discuss later as well, but first I will consider the interactive characteristics of mind maps, *Google Maps*, and *Google Earth*.

Because it is one of the defining features of games, there has been a lot of discussion of interactivity coming from game studies. However, interactivity is also considered a basic characteristic of digital media in general. As Hocks says, "modern information technologies construct meaning as simultaneously verbal, visual, and interactive hybrids" (631). Hock's description is useful for thinking about mind maps, *Google Maps,* and *Google Earth* as interactive experiences because what makes these technologies more interactive than the standard word processing software is the depth of material and media that intersect at the user's point of interaction. Word processors also have interactive features, but they do not create a "deep" experience for users through layering text, images, graphics, spatial and geographic information, and so on.

Each of these tools also gives the user a somewhat embodied experience because of the heightened sense of movement one gets while using them. The user "moves" around in the space or map, interacting with the various media (again, images, text, space, and so on). *Google Earth* also provides a more sophisticated sense of movement because the immersive effect of its 3D visuals gives users the feeling that they are actually viewing the earth from above by allowing them to fly through the landscape. Thus, movement in *Google Earth* is more fluid and true to life than in mind maps or *Google Earth*.

In addition, and related to this sense of movement, these tools also allow the user to get a global view of the issue at hand. For example, because mind maps allow you to see the ideas for an entire paper on one screen, the user can interact with the entire paper, rather than just working on an individual sentence or paragraph. In this sense, the user can manipulate an entire paper or highly complex idea very easily by moving and rearranging the order of ideas or relationships between ideas. Again, *Google Maps* and *Google Earth* function quite similarly, allowing the user to zoom out to take a very broad view of the entire issue or idea being mapped or to zoom in to focus on the significance of one particular location. Because of the global view that is enabled by these technologies, users also have the sense that they are interacting with the entire complex system at one time. Gee's concept of the model applies here in that these technologies can function as models of that complex system, making manipulation and experimentation with these complex systems more manageable. In contrast, users of word processing software usually only view one page of a document at a time, often times less

than that, which can leave the user without "a sense of what they have" in the complex system of the text (Haas 118).

To consider some specific examples, in the case of mind maps, the complex system is the concept or paper, and the models are the maps, which are made of the essential ideas of the topic at hand. In the simplified form of the map, the paper or the ideas for the paper become something that the user can interact with. In the map they can be easily manipulated, played with, and experimented with. Similarly, in the case of *Google Maps*, the assignment that I studied asked students to create a simplified model (a map) of a complex system (the reactions to a novel and the novel itself). The maps allow the students to gain a new perspective on the material because they simplify it and emphasize some of its features (its geographical significance) over others. Finally, for the *Google Earth* case the complex system is a college campus, and Google Earth provides a model of that campus looking only at its memorials and statues, allowing students to consider the number and placement of the memorials. In each case, the technology allows the user to consider a complex system from a particular perspective, which, according to Gee, fosters invention and creative thinking.

Turning to *SL*, interactivity functions as an important part of the immersive experience it provides and how it functions as a simulation, all of which contribute to *SL* as a playful, creative, experimental space. *SL* conforms to definitions of interactivity used by gaming scholars. According to Janet Murray, interactive environments "must be meaningfully responsive to user input" (qtd. in Bogost 42). Murray's definition is similar to the definition provided by gaming scholar Eric Zimmerman, who describes the

interactivity that occurs in video games as "explicit interactivity" which involves, "overt participation" including "choices, random events, dynamic simulations, and other procedures programmed into the interactive experience" (158). *SL* is interactive because users need to respond to various types of interactions with the space, whether they be with other users or with automated features of the *SL* space created by other users. In addition, the user also has complete control over where they go and what they do in *SL*; one cannot use *SL* without interacting.

To return to Gee's discussion of the important role that models and simulations have in learning through play, *SL* is better described as a simulation. Its high level of interactivity, along with 3D visuals, creates an immersive experience that makes *SL* an effective simulation of real life. It is critical that the simulation be convincing because *SL*'s main purpose is to serve as a place for people to create experiences and environments that cannot exist in reality. It is a place to make the imagination a reality in the sense that you can see it and interact with it via your avatar similarly to how you would in real life. Thus, play in *SL* is almost completely dependent on its visuals, which enable its interactive and immersive experience.

As interactive, highly visual technologies, with the ability to function as models or simulations, and provide the user with a more embodied and in some cases even immersive experience, these technologies show potential for providing a playful experience for students. Specifically, in terms of the definition of play described in Table 1.1, they all show the potential to provide a novel experience, foster creativity (or an openness to improvisation), and they are able to provide constant challenges. It seems

like these technologies *might* foster a playful experience in these ways. However, there is no data on what the students' experience is actually like, and this study will provide more information about the students experience and increase our understanding of that experience as well as the role of play in pedagogical uses of digital media.

OVERVIEW OF THE CHAPTERS

The following chapters will explain the methodology, results, and implications of this collective case study. Chapter 2 offers literature reviews for each of the technologies, providing a better sense of their background, their reception by the rhetoric and composition community, and positioning this study in relation to previous research. Chapter 3 explains the methodology of the study. Chapters 4-7 report the results of each case and some conclusions. Following the order I have used throughout this chapter, the mind maps results are presented first in Chapter 4, the *Google Earth* results come next in Chapter 5, followed by the *Google Earth* results in Chapter 6, and finally the *SL* results are covered in Chapter 7. I have chosen this ordering of the cases to reflect the gradually increasing complexity of the technologies. However, the data for the cases was collected in almost the complete opposite order. The data for the *SL* case was collected first, and after that data was reviewed and changes were made to the methodology and data collection methods. The next semester, the data for the rest of the cases was collected: *Google Earth* first, mind maps second, and *Google Maps* third. Thus, as will be noted in Chapter 3 and in relevant places during the rest of the dissertation, there are discrepancies in data collection methods that will be explained as they arise. Finally, Chapter 8 offers

overall conclusions based on comparisons across the cases, as well as implications for the field and future research.

Chapter 2: Literature Review of the Technologies

Since the first personal computers became available, the composition and rhetoric community has been trying to determine just what role digital technology should have in the writing classroom. As discussed in Chapter 1, many scholars argue that our field cannot ignore the important ways that digital media has altered communication and argumentation (Faigley; Yancey; Price; Selfe). They explain that multimodal assignments bring creativity, innovation, and play into the classroom; enhance the traditional writing curriculum; and enable students to consider the communicative capabilities of various media. Other scholars and many classroom instructors are concerned about the boundaries of our field, arguing that multimodal texts do not and should not fall within the realm of the writing classroom (Hesse). Because the student's experience of these assignments is often reported anecdotally or represented via speculation in these discussions, this study aims to better understand the students' perspective through analysis of data provided by the students themselves.

This chapter is an extension of the literature review in Chapter 1, offering brief histories and reviews of the literature specific to each of the technologies. While Chaper 1 focused on reviews of the more theoretical literature relevant to this study, this chapter explains how previous researchers have investigated these technologies and what their results were, situating this study within comparable studies and providing context for both the methodology and results of this study. The reviews also offer more detailed discussion of how these technologies have been used and discussed in composition and rhetoric in particular, but in other fields as well. Finally, the reviews provide further

evidence for the claim in Chapter 1 that these technologies show the potential for providing a playful experience for students. Here that argument is extended to include specific examples of pedagogical uses of these technologies that are motivated, at least in part, by play. The chapter has been broken down into subsections for each technology, as each one has had a different reception by the rhetoric and composition community and by the general public. In addition, *Google Maps* and *Google Earth* are discussed in the same subsection since they are both web mapping technologies.

MIND MAPS

Mind maps (sometimes referred to as concept maps or thinking maps) are the simplest of the three technologies studied, which is why they have been used for centuries for education, invention, organization of ideas, and problem-solving, with the earliest mind map-like artifact dating back to the 3rd century BCE (Burkhardt). Today, mind mapping has gone digital like most other forms of composition, and there is a wide range of both free and proprietary mind mapping software on the market. Those who study mind maps explain that they allow us to make "explicit" the patterns of our thinking using visual representations and to "become more aware of *what* we are thinking and also *how* we are thinking" (Williams 14).

Mind maps are used in a variety of fields as educational tools for invention, organization, and as study aids (Budd; Farrand et. al.; Brinkmann; Eriksson and Hauer). Within composition and rhetoric, mind maps have long been included in composition textbooks as the "branching" or "clustering" method of brainstorming (e.g., Lunsford;

Anker). But despite their somewhat ubiquitous presence in the textbooks, there has been little discussion of them in the journals, rendering them an unnoticed but given aspect of composition pedagogy.

Since the assignment in this case study used mind maps as a collaborative planning tool that supported invention and analysis, I will briefly discuss the literature on planning, or outlining, and its relationship to invention and analysis. Although the process model has fallen out of favor in composition scholarship in recent years, the most recent studies show that planning and revision are very important parts of the writing process that are often neglected by student writers (Crowley; Sommers). However, since the earliest studies of the student writer's process, there has been considerable doubt about the usefulness of formal outlines, which are often associated with product-oriented pedagogies (Stotsky; Flower and Hayes). The term "formal outline", as Jonathan Price explains, is almost a bad word in much of the research. According to Price, "the traditional textbook model presented an outline as a single document, not as a process…. a document, moreover, that acts as a rigid blueprint the student must follow when drafting" (410-11). According to Walvoord, outlining has been both attacked and overlooked altogether in much of the process research because of these negative associations with formal outlines (qtd. in Price 411). In addition, Price also notes Stotsky's conclusion that much of the research on planning does a poor job of differentiating between plans, goals, and strategies, leaving those terms "vague" and "conflated" (410). Based on his uses of electronic outlines (he is using word processing software) as both a writer and teacher, Price calls for a reconsideration of outlining with a

new focus on the affordances of the electronic medium, which "speeds up the interrelated and overlapping activities of invention, notation, writing, reconsideration, and revision; in fact, these cycles happen so often and so smoothly that one begins to think of an outline not as a fixed document, but as an ongoing process in which the text is fluid" (416). Price may as well be discussing mind maps because they are a flexible, informal, visual organization method designed to handle complex ideas (like writing). They allow users to shift easily between planning, composing, invention, and analysis (using the notes feature, a user can insert text into the maps, show and hide the notes at will, and effectively write an entire paper into a map).

Both Price and Walvoord et al. champion outlines as a place where a multitude of writing activities occur, which is indicative of the more recent shift from a linear to an ecological model of writing process (Price 416). The ecological model considers how a variety of different technologies and genres, are used to create a text (Syverson). The writing process within the ecological view is nonlinear and does not involve easily definable steps. As I described above, mind maps support the seamless shifting between activities and thought processes, which complements the ecological model of writing. In addition, mind maps are themselves an ecology of genres because they allow a writer to include text, images, symbols, and hyperlinks in the map.

Despite the relevance of mind maps to the ecological model of writing, as well as to some of the older process model research, there has been little research at the college level on what effect mind maps have on writing. As noted earlier, they have been proven effective as study tools and as course planning tools for teachers by researchers in other

fields (Ferry et al.; Budd; Farrand et. al.; Brinkmann; Eriksson and Hauer). However, of these reports, only Farrand et al. and Ferry et al. conducted studies; the rest of these reports are based upon anecdotal evidence. With respect to composition, the only evidence that mind maps are effective writing tools comes from researchers looking at K-12 classrooms where writing test scores improved dramatically after mind maps were introduced to the curriculum as planning and invention tools (Buckner 75). Price's work also offers information about how electronic outlining might impact student writing at the college level; however, he discusses Word's outlining feature, which is considerably different than mind maps, and provides only anecdotal evidence of its efficacy based on observations of his own classroom. Building on Price's research, and current work on spatial, networked, or ecological models of writing, this study of the student's experience of using mind maps will offer new information about this neglected but promising portion of writing pedagogy. The study will offer more objective results on both the usefulness of mind maps and the students' experience of them than anecdotal reports can provide, and will also consider mind maps in terms of college-level writing in particular, filling a void in the literature.

Much of the previous research on mind maps also illustrates an association between mind maps and creativity and student engagement (two of the major characteristics of play as defined in Table 1.1), indicating that mind maps' potential for fostering play often motivates their pedagogical application. For example, in Budd's discussion of using mind maps to teach economics, he argues that mind maps "reenergize" the classroom, and provide a welcome change from "'chalk and talk"

pedagogies (42). Brinkmann goes further, devoting an entire section of his article on the use of mind maps in the Mathematics classroom to their creative characteristics. He unambiguously titles that section "Mind maps foster creativity" (40). Finally, Eriksson and Hauer place even more emphasis on mind maps as creative tools by titling their article, "Mind Map Marketing: A Creative Approach to Developing Marketing Skills." These examples indicate that mind maps are associated with fostering creativity and student engagement and that these associations are a central part of the rationale for using them in the classroom. This play-oriented aspect of the literature on mind maps offers further evidence that they are well-suited for this study which seeks to better understand the role of play in the students' experience of multimodal assignments.

GOOGLE MAPS AND *GOOGLE EARTH*

Google Maps and *Google Earth* are the most widely used and well-known of the technologies that I have chosen to study, but only recently have they begun to gain notoriety as pedagogical tools (Cohen). In the past five years or so, free, user-friendly, and accessible web mapping tools like *Google Maps* and *Google Earth* (both released in 2005) have begun to "spur [a] new movement of amateur mappers and data collectors" (Tulloch). Web mapping tools have prompted an outpouring of creative, multimodal composition, revolutionizing the public's ability to create, customize, and share maps. After the launch of *Google Maps*, hackers used the application programming interface (API) to create "mashups" from all sorts of datasets (Darlin). Programmers created maps on all manner of topics, from television shows to garage sales, resulting in maps that gave

geographic meaning to datasets "normally dissociated from location" (Gordon). Soon Google open-sourced the API so that anyone could use it, resulting in even more mashups, and in 2007 Google added the "My Maps" feature, which allowed even non-programmers to be able to customize, share, and publish maps. *Google Earth* has experienced a similar out-pouring of innovative uses, especially using its capability to layer images (and links to commentary) in *Panoramio*, videos on *Youtube*, and a host of other features.

Despite their popularity amongst the general public, *Google Maps* and *Google Earth* have received a muted reception by the literary studies and composition and rhetoric communities. There are, however, notable pockets of enthusiasm within these fields, and pedagogical and scholarly interest in web mapping seems to be rapidly gaining credibility. In addition, both fields have histories of using mapping or spatial considerations as pedagogical or analytic tools. In literature, novels set in real locations or that included an emphasis on geography have been mapped for quite some time, for example, James Joyce's *Ulysses.*[4] With the advent of computers, mapping as a form of literary analysis might be included among other non-traditional or computer-based forms of analysis, described by Samuels and McGann as "deformation" of a text, or by Ramsay as "algorithmic criticism." Moretti's *Graphs, Maps and Trees* is one of the first extended discussions of mapping as literary analysis. Moretti argues that mapping is a fruitful

[4] *Joyce's Dublin: A Walking Guide to Ulysses* by McCarthy and Rose was published in 1986, but Bloomsday, an annual festival where Joyce fans walk the route that Leopold Bloom takes in the novel, has been celebrated since 1954. The *Walking Ulsysses* site hosted by Boston College is an example of how this type of analysis has been adapted to web mapping and of a well-established use of mapping as a pedagogical tool for literature courses.

form of literary analysis, allowing one to break a text down into simpler, more manageable parts and providing a method for seeing a text in a way that would not otherwise be possible (53). Viewing a text in terms of its geographical characteristics alone often reveals otherwise unseen patterns of cultural and ideological import (Moretti 56-7). With the advent of web mapping, work like Moretti's has gained acceptance and evolved into the spatial humanities, where Geographic Information Systems software are used to analyze both real and fictional locations (Cohen). Sites like *Google Lit Trips*, which hosts *Google Earth* maps of various novels contributed by people all over the world, and interdisciplinary projects like USC and UCLA's ***Hypercities***, which uses both *Google Maps* and *Google Earth* for "geo-temporal analysis and argumentation," illustrate the popularity of and investment in mapping literature (Presner).

With the exception of Gregory Ulmer's mapping home assignment, which he describes as an invention and reflection activity in *Internet Invention*, there was little discussion of maps as a form of composition before web mapping (97-110).[5] But since their release, web mapping tools have been taken up as both pedagogical tools and a new genre for rhetorical analysis. Documented uses of web mapping in the composition classroom come from the University of Rhode Island, where students map their literacy histories in a freshman writing course; the University of Windsor, where students use the maps as a portfolio to house their writing and map the subjects of their writing; and at the

[5]Although pre-web maps there was no discussion of students composing maps, consideration of the importance of space and place in the writing classroom has been a prominent theme in the literature, especially concerning strategies for investing students in their writing via assignments that focus on space and place (Clark; Mauk). The importance of place and location is, obviously, also an important component of the subfield, eco-composition.

University of Texas at Austin in the Digital Writing and Research Lab (DWRL), where they have been used for a variety of purposes including as companions to argumentative papers, as invention tools, as a method of analysis, and so on (Jacobs et. al.; Pennell; McCarthy; Dean; Coleman).[6] In addition to these examples of scholarly discussion of web mapping tools in Literature and composition, recent publications like the 2009 *Horizon Report*, which devoted an entire section to the pedagogical possibilities of web mapping, and a 2011 *New York Times* article on the spatial humanities, which was part of its series on Humanities 2.0, enthusiasm, indicates that pedagogical uses of these tools is clearly on the rise (Johnson; Cohen). This study of the pedagogical value and student experience of using web mapping tools will offer valuable information to this emerging field.

Consideration of web mapping from a rhetorical perspective comes from Jeff Rice's "Urban Mappings: A Rhetoric of the Network." Rice points out that online maps are actually databases and calls for a rhetoric of the database that considers how "online mapping adds new dimensions to how we navigate and arrange space in order to construct new and alternative meanings" (199). Rice applies Richard Enos' interpretation of the "Ciceronian concern with arrangement" to the database. The database, like arrangement, "'provides a structure, an architecture for the creation of ideas,'" which "'is essential to the invention process'" (qtd. in Rice 200). In addition, the database is an example of how digital media has changed the way that invention is influenced by spatial

[6] It is important to note that these examples represent documented pedagogical uses of web mapping tools. Since the technology itself and the idea of using them in a writing classroom are so new, I assume there are more undocumented uses of these tools currently happening.

movement. Before, "the structuring of the page affected the structuring of ideas, often emphasizing outlines, grids, and tables as arrangement devices" (Rice 201). Unlike the page, the database structures information to support creativity and discovery of novelty by, "not dictating the exact structure of the arrangement" (202). Rice likens this process to Carolyn Miller's explanation of novelty's role in topos-bound invention:

> The Aristotelian topos of degree, or of ways and means, suggests a conceptual shape or realm where one may find—or create—a detail, a connection, a pattern that was not anticipated deductively by the topos itself. The topos is conceptual space without fully specified or specifiable contents; it is a region of productive uncertainty. It is a 'problem space,' but rather than circumscribing or delimiting the problem, rather than being a dosed (sic) space or container within which one searches, it is a space, or a located perspective, from which one searches. (qtd. in Rice 203)

The database, like Miller's topos, is a tool for making new connections and for exploration. Rice's vision of the database is supported by the maps made by users all over the world, making connections between spatial representation and all sorts of other information that previously had not been mapped. Rice uses Lyotard's pre-web discussion of databases in *The Postmodern Condition* to further explain the relationship between databases and novelty:

> In the database, Lyotard argues, informational proximity should be used not to keep ideas apart, but rather to allow their connectivity even when those connections come from different bodies (disciplinary, ideological,

> compositional), often in unanticipated ways. This connectivity is encouraged by imagination. 'This capacity to articulate what used to be separate can be called imagination.' Following Lyotard's definition of database rhetorics, one must be able to imagine ways to connect information that previous set-ups have not yet allowed for. (206)

These theoretical discussions of web mapping tools (databases) explain the explosion of web mapping coming from the general public, and more recently, from academia and education: it is the very nature of these tools is to engender creative, imaginative, connections.

The literature on pedagogical uses of web mapping tools is still in its infancy. There have been a few published reports on using web mapping tools in the classroom and no formal studies on the topic. One such report is "Writing New York: Using *Google Maps* as a Platform for Electronic Portfolios," where Jacobs, Adams, and Morris describe the theory behind and execution of having their students use *Google Maps* to create a portfolio of pieces they had written about events in various parts of New York City. Based on anecdotal reports from several students, the assignment was successful in getting students to "think spatially and make connections in ways [they] might not otherwise have made them" (Jacobs et al. 121). However, several of the students simply didn't "get" the purpose of the map, and the authors discuss using modeling and collaborative mapping to clarify the rhetorical purpose of the maps for students (120-122).

Erin Sells', "Mapping *Mrs. Dalloway*: Teaching Woolf with Google Earth," provides another report on the execution of her web-mapping assignment and offers anecdotal evidence about the students' experience of the assignment. Sells assigned her students, in groups, to map the path of one character through London as the class read *Mrs. Dalloway*. Sells found that the mapping assignment, "became a useful tool for first anchoring the prose in geographical detail" and "gives students a guide to navigating a difficult novel" (29). However, based on student reflections on the assignment, Sells found that non-English majors were more positive about the assignment than the English majors, who "would much rather have just written a paper" (30). Sells recommends adding a writing assignment based on the map to more clearly connect it to the goals of the course (30). In addition to the work of Sells and Jacobs et al., there are several similar pedagogically-focused, anecdotal reports coming out of the Digital Writing and Research Lab at the University of Texas (McCarthy; Coleman; Dean).

My study will build upon these promising anecdotal reports in order to gain a clearer picture of what the students' experience of web mapping assignments is like through the use of formal study methodologies and third-party objectivity. In addition, like the literature on mind maps, the previous research and theoretical discussion of web mapping technologies often reference some of the key characteristics and outcomes of play described in Chapter 1. Rice's argument that web mapping tools are arrangement tools that support invention, add a novel perspective on a topic, and produce creative thinking is very similar to the ways that the rest of the authors discussed above explain their purpose in using web mapping tools in the classroom. Most often the objective of a

web mapping assignment is described in terms of making "connections," or "invention" (Pennell; Jacobs et al.; Coleman; Dean; McCarthy). Some of these scholars also discussed creativity and novelty, explaining that the purpose is to "try out new techniques and approaches," "be creative," or experience something "exciting" and "new" (Jacobs et al. 126; McCarthy; Sells 28). Even Moretti saw mapping as a form of invention that would provide a novel perspective on the text. The common thread here is that web mapping tools are being employed in the classroom as a means to support invention, to bring in novel perspectives, to make new connections between concepts, which all align with some of the major characteristics of play as defined in Table 1.1. As with mind maps, this pattern in the literature indicates that web mapping tools are being brought into the classroom for play-related purposes.

SECOND LIFE

Second Life (*SL*) has received much attention in the past several years as a simultaneously exciting and troubling social and technological phenomenon, with implications for everyone from corporations to social scientists. Of the four technologies, *SL* has probably received the most media attention, but its success remains controversial for both general users and educators alike. Because *SL* is a persistent, game-like environment that enables users to interact with other users and to build almost anything they can imagine (provided they have the necessary technical skills), it has piqued the interest of educators from a wide variety of fields. These educators value it for its ability to provide customized immersive experiences, creative building opportunities, role-

playing opportunities, and so on (Boulos et. al.; Warburton). In composition and rhetoric, most scholars are interested in *SL* as a platform that might offer students "real" experiences of rhetoric either through role-playing activities or interactions with other users (DeWinter et. al.; Hoag and Schell; King).

Despite these promising ideas, *SL* has more recently been criticized for not living up to the hype generated by both academics and the general public in the mid to late 2000s, and there seems to be three major issues facing instructors who want to employ *SL* in their classrooms (Young; Collins). The first and most obvious problem noted by recent critics has been that it is difficult to find other avatars to interact with in *SL* and that there is little going on (Young). The lack of activity has been attributed to the fact that Linden Labs, the company behind *SL*, recently came under new management that banned gambling in the virtual world and cordoned off all adult activity to a completely separate space (Collins). Since one of the most common complaints about *SL* was the risk of exposing students to adult content, these changes will likely benefit educators. However, for instructors who want to offer students an immersive experience that includes real-time interactions with other users, the lack of user-activity is problematic. If a rhetoric instructor assigned students to go find other users in *SL* and engage them in debate on a topic, for example, those students might be hard-pressed to find other users. The other major problems, and probably most critical problems, were revealed by a recent survey by the New Media Consortium, which shows that educators interested in using *SL* in the classroom are still plagued by the steep learning curve for students and a lack of

pedagogical models (Levine). The learning curve makes classroom uses of *SL* time-intensive and often frustrating experiences for students. This problem is often exacerbated by the lack of pedagogical models: since there are no clearly established best-practices, instructors are left with the daunting task of determining how to structure their students' experience of *SL*'s complex environment on their own.

Previous research on pedagogical uses of *SL* addresses some of these issues as well as brings to light new ones. The results of Jerome Bump's 2006 study of his use of *SL* in an English course shows that the majority of students enjoyed a role-playing discussion activity and found it relevant to the course. However, students were frustrated by a building assignment because of the lack of technical support and because of crashes, bugs, and other technical problems they experienced using *SL* (Bump). In addition, the vast majority of the students did not find the building assignment relevant to the course, and felt that *SL* should not be used in writing courses (Bump). The work of Joe Sanchez, who has been both implementing and studying *SL* in writing and English classes since 2006, illustrates that pedagogical best practices for *SL* are still being revised and amended. One of Sanchez's earliest reports on *SL*, "A Sociotechnical Analysis of Second Life in an Undergraduate English Course," found that expert technical support and documentation should be provided for students who are given building assignments in *SL*, that students should be provided with activities to help acclimate them to the *SL* environment, and that activities should also be provided that build social connections between students in *SL* (3). In a 2007 blog post, Sanchez reported on his own classroom experiments with *SL* and recommended assigning manageable tasks to students when

they first arrive in *SL* without providing specific instructions on how to complete them ("Breaking"). Sanchez found that a manageable, low-stakes assignment gave the students confidence in their ability to create in *SL* ("Breaking"). In his 2009 report, "Second Life: Ideas, Challenges and Innovations," Sanchez offers successful examples of using *SL* in English courses for digital story-telling, role-playing, and community engagement. In Sanchez's experience, "the use of creativity, reflection, and active learning strategies translate well into *SL*," but despite these strengths, Sanchez also includes an entire section titled "Barriers to Student Learning in Second Life" ("Pedagogical" 28). In "Barriers" Sanchez reiterates the frequent and significant problems students encounter with technical and interface issues, which caused assignments to be time-consuming and frustrating for students (30). However, Sanchez also notes that despite these frustrations, students gained a sense of accomplishment from their experiences in *SL*, and the work they produced exhibited a high level of creativity ("Barriers" 31-33). He concludes that the themes of creativity, accomplishment, and avatars seem to hold the most promise for pedagogical uses of *SL* ("Barriers" 31).

In a report on the project *Learning from Online Worlds; Teaching in Second Life* funded by the Institute of Education/Educase Foundation, Diane Carr outlines similar findings about the student's experience of *SL*. As Carr explains, "We found that: *Second Life* can be useful, that *Second Life* can be ambiguous, and that participants may have very different perspectives on a session." In this case, the course studied was Computer Media Communication, the students were mostly teachers themselves, and the class included both distance and face-to-face learners. The class met four times in *SL*, all of

which were optional, and the meetings consisted of a lecture by a visiting expert and/or discussion. The distance learners found the *SL* sessions useful because they enhanced the social aspect of the course by "supporting informal, peer-to-peer contact," which improved their overall experience. In addition, students repeatedly commented on the "live" experience of *SL*, describing it as, "anarchic, chaotic, 'live', motivating, compelling and nerve wracking." However, face-to-face students were generally less enthusiastic about *SL*. Like Bump's, this class also ran into significant communication problems in *SL*. Carr notes that there were upsides and downside to both methods that they tried: "With a text-based discussion in *Second Life*, when one nominated person 'talks', it feels very organized, but it can get boring very quickly. When everyone talks, some students enjoy it, and others feel like they are drowning." In addition, Carr describes *SL* as ambiguous because different students had very different experiences, and it can be difficult to gauge the level of confusion or engagement in-world. Carr concludes that overall the students found *SL* to be a useful component of the course and that both preparing and framing the experience for students is a critical component of using *SL* in the classroom.

My study differs from most of these previous studies because in addition to focusing on the students' experience of *SL*, my goal is also to determine whether or not they view *SL* as supportive of the traditional goals of a writing course. Bump's study is probably most similar to my own in that he is studying an undergraduate English course. However, he was one of the earliest adopters of *SL* in the writing classroom, and thus my study will provide information on how far the medium and our field's pedagogical

theories for *SL* have come since his course in 2006. Finally, as is the case for much of the literature discussed in this chapter, Bump, Sanchez, and Carr are also reporting on their own courses; my study will have the added objectivity of a third-party investigator.

Play was also an intended outcome for the assignments reported on in the *SL* literature; however, these authors are much more explicit about their play-related purposes. For example, Bump explains that his motivation was to use *SL* to get students to play with literacy the way that they play video games. Sanchez's motives are also play-related. His assignments are designed to allow students to "be creative" and make them "active participants" ("Pedagogy" 21). In addition, as explained above, creativity is one of the three areas that students found both useful and fun in Sanchez's studies of *SL* ("Barriers" 31). Thus, maybe moreso than the other technologies, the literature shows that instructors are using *SL* because it is a playful space and are hoping their students will experience some of the benefits of playful learning described by Gee in his work on learning and games. As with the other technologies, this evidence of play-related motivations in the previous research further supports my argument that these technologies show the potential for fostering play and illustrates that this perspective is shared by other researchers and instructors. Since it is clear that the role of play in the students' experience is a common thread across the literature, this study will open the conversation about play. In contrast to the previous research which references play only through its symptoms, creativity and student engagement, this study addresses play directly. Since play is an important part of why these technologies are being used, this

study aims to address what play actually is, what role play has in the students' experience, and whether play is actually occurring.

These literature reviews also illustrate that while all of these technologies show promise for pedagogical application, none have been studied extensively by the composition and rhetoric community. Possibly because the research is still in its early stages, there have also been no formal studies conducted on these technologies in rhetoric and composition. Thus, this study can be viewed as the next step in the research because it follows formal study procedures, studying classes that were not taught by the researcher. The objectivity added by the third-party perspective is critical because the results found by researchers studying their own courses are often inadvertently tainted by the researcher's bias. The more objective perspective of this study will offer much needed credibility to the research in this area by confirming or disconfirming some of the results found by previous researchers.

Chapter 3: Review of the Literature and Methodology

INTRODUCTION

This study, which is a comparative case study, looks at the use of four different technologies for multimedia assignments: the mind mapping software *Novamind*, the web mapping technologies *Google Maps* and *Google Earth*, and the virtual environment *Second Life* (*SL*). Each technology was used in a different course by a different instructor, so there are four courses, or cases, in this collective case study. The research questions of this study are as follows:

- Do students find multimodal assignments to be playful, creative, or engaging experiences?
- Do they view these assignments as related to and supportive of the more traditional goals of the course?
- What role does the visual nature of these technologies have in the student's experience of using them or in their pedagogical effectiveness?

This chapter describes the study's research methodology and will explain the rationale for the research approach, a description of the research sample, an overview of the research design, the methods of data collection, the analysis of the data, pilot studies, ethical considerations, issues of trustworthiness, and the limitations of the study.

RATIONALE FOR THE METHODOLOGY

According to Merriam, a case study is "an in-depth description and analysis of a bounded system" (40). In addition to the bounded nature of the subject, Yin explains that the case study methodology was designed to help researchers understand a complex phenomenon: "Case study method allows investigators to retain the holistic and meaningful characteristics of real-life events—such as individual life cycles, small group behavior, organizational and managerial process, neighborhood change, school performance, international relations, and the maturation of industries" (4). Yin further explains that a case study is appropriate when "The boundaries between phenomenon and context are not clearly evident." Although Yin notes that case studies are viewed by some as merely descriptive, he argues that description is actually its strength; it provides the level of description necessary to understand complex social phenomena (6). Many of the other criticisms of case study are also misunderstandings of the complexity of the object of study (Merriam 53). Merriam summarizes Flyvbjerg's discussion of these misunderstandings: that it does not produce knowledge that can be generalized to other cases, that case study results are difficult to "summarize into general propositions and theories," and that it merely confirms the researcher's biases (53). In response to these misunderstandings, Merriam explains that the emphasis on generalization is "overvalued" because "universals can't be found in the study of human affairs," and that the "force of a single example is underestimated." (53). Case studies pose no greater risk of exhibiting researcher bias than other methods, and the depth of description that makes case studies

difficult to summarize are "due to the properties of the reality studied, not the research method" (Merriam 53).

All of the characteristics of a case study apply to the object of this study: the students' experience of multimodal assignments in the writing classroom. This study investigates four distinct cases with very clear boundaries; each case investigates one classroom, using one technology, for one assignment, during one semester. In much classroom research, particularly in writing classrooms, the context is almost impossible to separate from the phenomenon. The particular characteristics of the teacher, the students, and the course itself can have an enormous effect on the pedagogical phenomena being studied. The students' experience will be influenced by all of these factors. Thus, a case study allowed me to take the context into consideration via multiple data sources. In this case, the data sources included course descriptions, assignment prompts, student work, student and instructor reflections, and surveys that collected both quantitative and qualitative data about the students' experience.

The collection of multiple sources of data is a defining feature and major strength of case study methodology (Yin 114-15). These multiple sources of data are analyzed in a "triangulating fashion," searching for consistencies and themes across the various forms of data (Yin 18). Triangulation as a method of analysis is a central component of case study research, and its purpose is to "develop converging lines of inquiry" and to corroborate findings across multiple data sources (Yin 115; Bloomberg and Volpe; Merriam). In this study, for example, to better understand the students' experience of these assignments, student responses to a survey asking about that experience were

compared with the work those students produced for the assignment as well as the instructor's description of and goals for the assignment. Each of these data sources contribute different kinds of data about both the students' experience and what they learned from the assignment, but the overall goal is that multiple data sources support the conclusions of the study. As Yin puts it: "When you have really triangulated the data, the events for facts of the case study have been supported by more than a single source of evidence" (116). In addition to its role in the analysis of data, triangulation also functions as a method of establishing the credibility of the study because the results can be corroborated by multiple sources of data (Bloomberg and Volpe 72; Merriam 116). Yin describes this as "construct validity," where multiple sources of evidence provide multiple measures of the same phenomenon (117).

In addition, the collection of multiple sources of data enables the case study researcher to employ inductive reasoning to build "thick descriptions," a term popularized by ethnographer, Clifford Geertz (Merriam 28). In case studies thick description has come to mean description that results in illumination of "the reader's understanding of the phenomenon under study" (Merriam 43-44). The purpose of a case study is to gain understanding of a particular phenomenon; it is a process of discovery, description, and meaning-making (Merriam 18). Because a person's experience of a phenomenon and their learning are extremely difficult, if not impossible, subjects to know and measure, the purpose of this study was to increase understanding of the student's experience of multimodal assignments and the factors that influence that experience. This purpose made case study methodology well-suited for this study.

I also used a particular type of case study identified by Creswell as a collective case study (it is sometimes called "multisite," "cross-case," or "comparative" case study), where one issue is studied, but multiple cases are selected by the researcher to illustrate the issue (*Qualitative* 74; Merriam 49). Because the incorporation of digital media into writing pedagogy has become relatively commonplace and has grown to include technologies as varied as *Twitter* and Photoshop, it seemed appropriate to compare assignments that used different types of digital media. To only look at one technology, or at very similar technologies, would have only provided information about that particular technology. But by looking at four different cases, I hope to be able to come to conclusions about the students' experience of digital media assignments that may be generalizable.

The study also uses mixed methods because the survey provides both quantitative and qualitative data. Although the quantitative data will be discussed in more detail in the "Information Needed" section below, the rationale for its inclusion was that it would bolster the study's dependability by adding another form of data, another level of triangulation. It also allowed me to use what Creswell calls a "concurrent triangulation" approach, meaning that the quantitative and qualitative data were collected at the same time and then compared to "determine if there [are] convergences, differences, or some combination" (*Research* 213). This addition of quantitative data is consistent with the case study method because as Merriam notes, "case study research does not claim any particular methods for data collection or data analysis" (42).

In summary, this study uses a collective case study methodology because its objects of study are clearly defined cases, bounded to one technology, used in one assignment, in one class, for one semester. The students' experience of these assignments is a complex phenomenon, which can be best understood by the collection of multiple forms of data, and by analyzing that data through a process of triangulation and constant comparison to produce thick descriptions. This study seeks to aid understanding of the students' experience of multimodal assignments, to understand which factors influence that experience, and in what ways the students found the assignments useful.

PILOT STUDIES

Two pilot studies, with IRB approval, were completed in preparation for this study. These pilot studies were also case studies. One of the pilot studies investigated a mind mapping assignment, the other, which looked at my own course, investigated a *Google Map* assignment. In both cases, the aim was to determine what the students' experience of these tools was like, and how they found these tools useful. In these pilot studies, I observed students learning to use the tool, collected the assignment prompt, student work, surveys, and in the mind maps study, interviewed selected participants. The data from these pilot studied did not undergo thorough analysis. However, the results revealed that students used mind maps in ways that were more complex than I had initially anticipated. In both cases, the results revealed that students enjoyed these assignments to some extent, and that they found them to be creative experiences. The results also showed that the visual aspects of these technologies made a significant

impact on the students' experience, but I did not ask students directly about this topic. Finally, my experiences observing students learning to use these tools revealed little information of value. I noted that most students learned to use them easily and were quickly using the advanced features of the tools. Any students who ran into problems resolved them quickly by asking other students for help. These pilot studies informed both the research questions and design of this study.

THE RESEARCH SAMPLE

A combination of criterion sampling and maximum variation sampling procedures were used to select this study's sample. As I explained in Chapter 1, I wanted all of the technologies studied to meet the following criteria: that they were multimodal, that they were popular amongst instructors, they could be used for a variety of pedagogical purposes, and they were likely to be used creatively or playfully by students. The only criteria for the courses that I chose to study were that they had a major writing component and that the development of writing skills be a major goal of the course. In addition, maximum variation sampling was chosen because diverse cases would "display multiple perspectives" about the issue (Merriam 69). Thus, I chose a range of technologies that were significantly different from one another in an attempt to represent the widely varying ways that digital media tools are used in the writing classroom. The courses studied also exhibit maximum variation in that they represent a range of courses, from standard freshman composition, to introduction to Literature, to lower-division elective

rhetoric courses. The use of maximum variation sampling also increases the likelihood that the results will be relevant for a wide range of readers.

The choice of cases was also site-specific. All of the courses studied were taught in same computer lab where I was working as a graduate student instructor, which provided me relatively easy access to these classes. However, there were about 34 instructors teaching in the computer lab at the time that the study occurred, and each of those instructors uses multiple digital media assignments in their courses. This situation provided a wide-range of technologies and assignments to choose from (providing that the instructor agreed to participate), so convenience played a relatively minor role in my sample selection.

After the cases had been selected and the instructors had agreed to allow me access to their classrooms, I accepted all students who agreed to participate. There was no other criterion to participate in the study other than completion of the assignment in question. There were 59 participants in total across the four cases. The students' ages and majors varied, but all were undergraduates at a large, urban, Texas research university with a diverse student population. Finally, as mentioned above, all of these courses took place in computer classrooms, where each student had a computer in the classroom, and large portions of the course content required the use of a computer.

OVERVIEW OF THE RESEARCH DESIGN

The data collection methods and research design were modified slightly during this study, which as Merriam explains, is common in qualitative research: "the design of

a qualitative study is emergent and flexible, responsive to changing conditions of the study in progress" (Merriam 16). The data for each of the cases was collected over two consecutive semesters, and the *SL* case's data was collected and analyzed during the first semester. After reflecting on the data and consulting with advisors, the data collection methods were altered slightly: observations were not done in the latter three cases, and the wording and scales of the survey questions were altered. In addition, the research question about the role that the visual aspects of the technologies had in the students' experience was added, and a question that addressed these visual aspects was added to the surveys. During the next semester, the *Google Earth* data was collected first, then the mind maps data, and finally the *Google Maps* data. Because of this chronology, some of the *Google Earth* survey includes remnants of the original survey used for the *SL* case. The following list summarizes the steps taken to carry out the study, and illustrates some of the differences in procedure used for the *SL* case.

1. A literature review was conducted in the areas of play and digital media assignments, play and learning, and play theory. Previous research on the four technologies to be studied was also reviewed.
2. The study was IRB approved after submitting a proposal that included the statement of the problem, research questions, review of the literature, and description of the methodology. This IRB was used for the *SL* case only, and required signed consent from the participants. After analysis of the SL data, the study procedures were modified, and another IRB was submitted requesting that the study be approved exempt since no

identifying information was collected. This exemption was approved. Thus participants in the *SL* case were known by the researcher, and participants in all of these other cases were completely anonymous to the researcher.

3. Instructors were contacted and asked to agree to participate in the study. A timeline was established for classroom visits and other forms of data collection. Course descriptions and assignments were collected from the course websites.
4. Learning goals were identified based on analysis of assignments and course descriptions. Survey questions were modified to reflect these findings.
5. (*SL* case only) A classroom visit was scheduled to obtain signed consent from the participants. The instructor left the room, the study was described to the students, the students were given a study information sheet (see Appendix A), and the students who agreed to participate signed a consent form.
6. (Mind maps, *Google Maps*, and *Google Earth* cases only) Classroom visits were scheduled after the assignment being studied had been completed. The instructor left the room, the study was described to the students, they were provided with a study information sheet (see Appendix B), and they were asked to participate in the study. Since signed consent was not necessary, students consented to participate by taking the survey

administered at that time. With the exception of one student, all students who attended class that day agreed to participate and completed the survey. The surveys were collected using the online survey tool, *Surveymonkey*.

7. (*SL* case only) Relevant class periods were observed and class discussions were audio-recorded.
8. Student work was collected for all cases. All of these documents were collected via the course website, or in the cases of *Google Maps* and *Google Earth*, via the technology itself.
9. Instructor reflections were collected via email.

Although these steps illustrate the basic differences between the procedures used for *SL* and those used for the rest of the cases, the following sections will provide further detail about the rationales for these changes.

DATA COLLECTION METHODS

As explained above, case study methodology requires that multiple forms of data be collected so that the data can be analyzed in a triangulating fashion. This approach to data collection enables the researcher to create an in-depth description of the object of study. Multiple sources of data are also critical to the reliability of the findings as the various forms of data are used to corroborate each other (Boomberg and Volpe 77). Therefore, this study collected several forms of data: course descriptions, assignment prompts, student work, instructor reflections, student reflections (*SL* case only), in-class

observations (*SL* case only), and surveys that collected both qualitative and quantitative data.

The student reflections and in-class observations were collected for the *SL* case because they were unique to that case. The student reflections on the assignment were assigned by the instructor but were not assigned by the instructors in the other cases, so this form of data could not be collected. In-class discussions of the *SL* assignment and the students' activities in *SL* were observed and audio-recorded, and these forms of data were necessary for two reasons. First, the students' interactions in *SL* comprised part of their work for the assignment, so my observations of those interactions were similar to collecting an assignment. In addition, the *SL* case's instructor regularly led discussions on the trajectory of the assignment that encouraged students to reflect on the assignment. These discussions offered valuable insights into the students' experience, but similar data could not be collected in the other cases since no such discussions were held. I also decided not to do in-class observations for the other cases based on my experiences observing students learning to use and using mind maps and *Google Maps* during my pilot studies. Although these observations showed that students have little trouble learning to use these technologies, they use each other as resources when they encounter problems with a technology, and they seem to enjoy learning to use them, simply watching students use a tool reveals little information that is valuable from a research perspective about their experience and how it is relevant to the assignment's goals. In the explanations below, the extra forms of data collected for the *SL* case are labeled as such.

The first five forms of data (course descriptions, assignment prompts, student work, instructor reflections, and student reflections) are all types of documents. Both Yin and Merriam note that documents can be problematic sources of data in that it can be difficult to ascertain their authenticity and accuracy, they might reflect an unknown bias of the author, and they may offer data that is not usable or understandable by the researcher. (Yin 102, Merriam 153-56). All of these weaknesses are due to the fact that documents are not developed for the research process. However, in this study, even though most of the documents were not created for research (the only exception is the instructors' reflections), concerns about authenticity and accuracy are minimal because the documents were created for classroom use and were collected directly from the instructor or through the course's website. The author's bias is also of little concern because as these documents are primary sources, that bias is of interest for the purposes of the study. For example, the assignments will probably reflect certain biases of the instructors, which are useful for trying to understand the instructors' purposes and whether those purposes were fulfilled by the assignments. Finally, although not all of these documents offer direct information about the students' experience (for example the assignment prompt or course description), they do contribute to understanding the assignment itself and the instructor's purposes, which both are important to understanding the students' experience and learning. In other words, they provide context for the students' experience.

Course Description. The course description was collected for each course to determine what the major learning goals of the course were. This information was

critical to my ability to evaluate how well the assignment being studied supported those goals. There is little question about the authenticity of these documents because they were collected directly from the each course's website.

Assignment Prompt. The assignment prompt was collected so that I could understand how the assignment worked, determine what sorts of requirements were involved, determine what the instructor's purpose was for the assignment. The assignment documents also often indicated how the assignment fit into the larger course. This information allowed me to evaluate whether or not the students had been able to successfully complete the assignment, how the assignment related to the overall learning goals of the course, and any learning goals that were specific to the assignment. Like the course descriptions, the assignment was critical to my ability to answer my second research question. These documents were also collected directly from each course's website, so there is little doubt about their authenticity.

Student Work. I collected the students' work, whether mind map, *Google Map*, image and comment thread in *Google Earth*, or images of an avatar or building project from *SL*. Evaluation of these examples of student work helped me determine how successful the assignment had been, how it related to the assignment's specific goals and the course's overall learning goals, and how much work had been put into the assignment. These documents were also collected from the course websites or through the relevant technology (*Google Maps* and *Google Earth*). Since the students were informed that these assignments would be collected by the researcher beforehand, it is possible that they could have been modified, but they would reasonably have had little

motivation to do so, especially in the cases where participation was completely anonymous (mind maps, *Google Maps*, and *Google Earth*).

Instructor Reflections. After the assignment was completed, I asked each instructor to write a reflection on the assignment explaining why they had chosen to use the technology in their course, what their goals and motives had been for the assignment, what they hoped the students would get out of it, and their final impressions about the outcome of the assignment. These reflections gave me further evidence of the goals of the assignment and why the instructor chose to use a multimodal assignment. There is little concern about the authenticity and accuracy of these reflections because they were collected directly from the instructors via email. However, there is considerable risk of author bias for these documents. It is reasonable to assume that instructors were motivated to depict their assignment as successful and as having pedagogically sound purposes for incorporating the technology into their curriculum. These probable biases will be accounted for as the documents are analyzed.

Student Reflections (*SL* case only). In the *SL* case the instructor assigned students to produce written reflections on their experiences in *SL*, which were collected from the course website. The reflections will be analyzed for indications of both the students' experience of the assignment and how useful they found the assignment in terms of the goals of the course. The results of the analysis of these reflections will be compared to the results of the surveys and to the examples of student work to help confirm or contradict any trends in the data. Since these documents will be collected from the course website where the students themselves turned them in, there is little

concern about the authenticity and accuracy. However, since these assignments were turned into the instructor and contributed to the students' grade, it is probable that they will exhibit a positive bias, and this will be taken into account as these documents are analyzed.

Surveys. Although the surveys are only one type of data out of several, they are a critical source of data because they enabled me to ask students questions that would elicit direct responses to my research questions. In addition, most of the major questions are presented in both qualitative and quantitative format to bolster the dependability of the data. For example, a quantitative question that asked students to describe their experience by rating a series of descriptors or options was followed by a qualitative question that asked the students to explain their answers. The rationale for these paired questions was that the quantitative questions would enable me to offer the students standard terminology to describe their experience and produce easily comparable results, and that the qualitative questions would allow the students to respond in their own words and not limit them to the standard terminology of the quantitative questions.

In addition, both types of data offer unique strengths and provide a check for each other's weaknesses. As Yin notes, qualitative survey responses provide only verbal information, which can be subjective and difficult to evaluate (115). Cozby agrees that some qualitative responses may be difficult to categorize, but notes that "open-ended questions can yield valuable insights into what people are thinking" and explains that they are valuable when the researcher is trying to determine how the participants "naturally view their world" (120). Cozby also explains that quantitative questions are easy to evaluate

and offer the same options to all participants, but that the limited options also limit the responses (120).

More specifically, Likert-type scales are used for the quantitative questions, and many scholars have noted the problems inherent in using these scales. The questions in the surveys ask students to rate a phenomenon on a scale of 1-5, strongly disagree/strongly agree, with neutral as the middle option. McCroskey, Pritchard &Arnold have questioned several aspects of such scales, including whether a neutral response indicates true neutrality or indecision and how accurately such scales can measure the intensity of feelings. The use of both types of questions helps to mitigate some of their weaknesses by providing a point of comparison and a method to gauge the accuracy of the responses, which is one of the central criticisms of surveys (Cozby 117). In an effort to encourage students to respond to the qualitative questions, when introducing the survey to the class, I will point out the paired questions and explain that the purpose of these "explain your answer" questions is to offer them a way to describe the experience in their own words if they felt that the descriptors I offer in the closed-format question did not apply.

The descriptors and options used in the quantitative questions were chosen based on my research on play discussed in Chapter 1, the results of my pilot studies, and the learning goals of the course and assignment as described in the course descriptions and assignments. Because the terminology has a significant impact on the results of the survey, the choices were critical for the descriptors and Likert-type scale labels used for the questions that ask students about their experience and about how the visual nature of

the technologies affected their experience. As discussed above, these labels and descriptors changed after the *SL* data was collected, so first I will explain the first version of the survey, and then explain the rationale for the revisions. In the *SL*-version, seven descriptors, both negative and positive, were offered that I felt would reasonably describe the experience based on my literature review and pilot studies. Those descriptors, in the order that they appeared, were: enjoyable, interesting, creative, difficult, frustrating, confusing, and boring. The first three options, "enjoyable," "interesting," and "creative" are based on the work of play theorists Stuart Brown and Mihalyi Csikszentmihalyi, who explain that play-states often produce feelings of enjoyment, are marked by intense engagement, and foster creativity. "Frustrating," "confusing," and "boring" were chosen based on Csikszentmihalyi's finding that a major obstacle for play is frustration with challenges that exceed the user's skill-level. Challenges that exceed a user's skill-level also often produce confusion as well. In addition, boredom is often experienced when the user gives up on the activity after experiencing frustration and confusion. Boredom can also be experienced when the activity does not provide enough of a challenge. Finally, "difficult" was chosen because I anticipated that most of the students would never have used these technologies before, and I wanted to offer a way of describing the experience of both learning to use the tool and using it to complete the assignment.

In the later version of the survey, I made several changes to reduce redundancy and increase clarity. First, "enjoyable" was replaced by "fun" because I felt that the latter term was more strongly associated with play, even though I also assumed fewer students would describe their experience this way. It seemed to me that if students were willing to

agree that the experience was fun, this was a clear indication that the experience was playful. In addition, I added the descriptor "easy" to function as a counterpart to "difficult" to provide another way to describe the experience of learning to use the tool. My overall goal for these terms was that they offer the students a set of options that might reasonably match their experience.

In addition, the scale and its labels were modified. In the *SL* survey I used a 4-point Likert-type scale labeled "Very," "Somewhat," "A little," and "Not at all." But after consulting with an advisor, it was changed to a 5-point scale labeled, "Strongly agree," "Agree," "Neutral," "Disagree," "Strongly disagree" because these terms decreased ambiguity and "neutral" should be offered as it might reflect the students' feelings in many cases. This change also better reflects common scaling and labeling practices for Likert-type scales ("Likert-type").

In total, the *SL* survey had 28 questions and the rest of the surveys had 15 to 17 questions. The SL survey was significantly longer because it collected more demographic information about the students' previous use of video and role-playing games. The questions asked students about their experience in general, what they liked and disliked about the technologies, the role that they felt the visual characteristics of the tool had in their experience, how the assignment related to the overall goals of the course, their overall impression of the tool, and whether they intended to use the technology in the future. All of these questions were designed based on my research on play, learning, and visual thinking and with the purpose of providing students with multiple ways to describe their experience.

In-class Observations and Audio-Recording (*SL* case only). In the *SL* case, the students only met in *SL* during class and the instructor also held in-class discussions of their experience in *SL*. Thus, only in-class observations would allow me to gather data about their activities and interactions in the physical classroom and in *SL*, and to have access to their discussions of *SL*. To do these observations, I attended all of the class periods that used *SL*, I audio-recorded any discussions about *SL*, and I also entered *SL* with the class and observed their activities there. I scheduled these class visits with the instructor on an on-going basis depending on how the assignment developed and changes in the course schedule. Critics of observation as a method of data collection have argued it is reliant on human perception and therefore subjective (Merriam 118). However, I was already quite familiar with the setting because I had taught courses in the same classroom and was familiar with the computers and the classroom environment, which allowed me to focus on the students' reactions and interactions. My research questions also guided my observations; I focused on whether they seemed to be enjoying the experience or not, how they interacted with each other both in *SL* and in the classroom, any problems that they ran into, and how they resolved those problems. During the class discussions, I was interested in the student's thoughts about their *SL* experience, what questions they had, and what ideas they had about the experience. Other scholars note that study participants may be influenced by the presence of the researcher during observations, or, in the case of a participant observer, the researcher may lose objectivity (Yin 102; Cozby 103). I was a non-participant observer and tried to avoid interaction with the students or instructor during my observations. The students were aware of my

general purpose of studying their experiences in *SL*, but were unaware of my specific interests. Since the students had little at stake in participating in the study, it is reasonable to assume that my presence did not influence their behavior.

METHODS FOR DATA ANALYSIS AND SYNTHESIS

According to Yin, "The analysis of case study evidence is one of the least developed and most difficult aspects of doing case studies" (109). Yin also notes that the novice is clearly at a disadvantage: "Unlike statistical analysis, there are few fixed formulas or cookbook recipes to guide the novice" (110). Because of my inexperience and the inherent ambiguity of qualitative analysis, I based my methods of analysis on Yin's, Merriam's, and Bloomberg and Volpe's recommendations, but understood that the method would need to be customized to the specific types of data collected, my research questions, and my purpose (Yin 129). My approach was to first read through all of the data to get a general overview, process the data into more manageable formats, then analyze the processed data to formulate results, and triangulate those results noting consistencies or discrepancies between the various forms of data, hoping to find results supported by more than one data source. The final step was to synthesize the data within and across cases using the theoretical bases of the study to formulate implications (Yin 34).

Since one of the major research questions asked was to what extent these assignments supported the traditional goals of a writing course, the first step was to analyze the course descriptions and assignments to identify the learning goals. These

learning goals were then incorporated into the survey questions where appropriate. I defined "the traditional goals of a writing course" as writing, research, and argumentation (or rhetorical) skills based on the Writing Program Administrators Outcomes Statement for First-year Composition. That document outlines specific skills that all fall into the larger categories of writing, research, and argumentation.

After the survey responses, student work, and instructor reflections were collected, all documents and survey responses were read to get a preliminary sense of the bigger picture and to identify any patterns in the data, such as references to technical problems or the prevalence of a learning outcome (Bloomberg and Volpe 101). In the *SL* case, the notes on the in-class observations and audio-recordings were also reviewed. After this initial familiarization with the data, the various data sources were prepared for detailed analysis. Notes were taken on the students' work samples, and the quantity or length of the work was calculated where applicable. Notes were also taken on the instructor reflections, as well as the students' reflections from the *SL* case, and quotations were taken from sections of interest. For the *SL* case, notes were taken on audio-recordings, and quotations that were of interest were transcribed. The survey data were processed or "arrayed" in several ways to aid analysis (Yin 129). First the responses were downloaded into excel files, where they could be manipulated and reconfigured more easily. The means and standard deviations for the quantitative data were calculated and charts were created to represent the results in this format. In addition, charts of the detailed results of the quantitative questions in percentages were created and downloaded from the *Surveymonkey* website. Because of the sample sizes involved in each case

study, it would be problematic to determine, with any statistical reliability, the analysis of variance in terms of responses across questions. Meaning that due to the number of students in each case study being notably smaller than the number of questions asked, any indications of statistical significance would inherently be skewed or offer only false indications in terms of my ability to reasonably and reliably offer generalizable results. Of course, these limitations to generalizability would be problematic in a number of studies and approaches. However, as the purpose of this study is not about generalizable results but rather more specifically focused on increasing understanding of students' experiences, this limitation is not inherently a problem. That is, the limitations of the data here (and the analysis of the data) are appropriate for the limitations of the claims being produced by the study. In addition, small sample sizes are simply a reality of writing classroom research as writing class sizes typically range from 15-30 students depending on institution (and NCTE and CCCC currently recommend capping writing courses at 20) ("More"; CCCC). Thus, with a case study approach, where each course is its own unique entity (i.e., where there is likely only one offering of that particular course, that particular way, rather than 5-15 sections of a given course), these sample size limitations (and the statistical analyses limitations that accompany them) are inherent to this kind of research. This is why a case study approach is better suited than more standardized and generalizable approaches.

After the data processing stage was complete I began to analyze the data. First, I analyzed the work produced by students for the assignment. My goal was to determine whether or not students had successfully completed the assignment, how much work appeared to have been put into the assignment, and any other indications exhibited by the student's work about how successful the assignment had been in terms of the instructor's stated goals for the assignment as well as the overall goals of the course. My techniques for evaluating the students' work varied according to the assignment and technology, but in general I noted whether they were well-edited, illustrated critical thinking, fulfilled the assignment's requirements, and how complex the document was. Where applicable, I also calculated the length or quantity of work produced.

Next, the qualitative survey results were analyzed. Following Creswell and Yin, the results of the open-format questions were initially coded using a broad set of pre-existing codes that I formulated based on my theoretical research; these codes were then expanded upon during the first coding session (Creswell, *Qualitative* 152, Yin 130). In the first research question, which asked what the students' experience was like, I was particularly interested in to what extent, if at all, the students had found the experience of using these technologies playful. Thus, I searched the written responses for terms and statements that were related to the major characteristics of play as defined by Stuart Brown and Mihalyi Csikszentmihalyi. The terms I looked for were fun, enjoy, interesting, engaging, creative, inspire, experiment, explore, and so on. In addition, I looked for negative descriptions of the experience or descriptions that would indicate that the experience was not playful. In this vein, I looked for terms or concepts like

confusion, frustration, difficulty, boredom, discussions of technical problems, and so on. A sample of how I coded the responses for this question in the *Google Earth* case is shown in Appendix C. In order to answer the second research question about how the assignment supported the traditional goals of a writing course, I searched the responses for discussions of what the students learned or how they found the technologies and assignment useful in terms of the goals of the course. In this area, I also searched for statements about how the assignment was useful that were not related to the goals of the course, or that were unanticipated by myself or the instructor. Finally, in response to the question about how the visual nature of all of these technologies impacted the students experience, I searched the responses for concepts and terms that were related to visual thinking such as see, view, perspective, visualize, and so on.

Following standard coding practice for qualitative research, the initial codes were then combined and condensed over three additional coding sessions, with the goal of narrowing to four to six final codes that encapsulated the major patterns in the students' responses (Merriam 269; Creswell 194). These final codes and any major sub-codes were counted, and the frequency with which they appeared in the whole data-set as well as the number of surveys they appeared in were recorded in a separate table. This representation of the qualitative data allowed me to quickly determine how frequently a code appeared in the data, how many students' surveys it had appeared in, and which students surveys it had appeared in. Table 2.1 shows an example this representation of the coding from the mind maps case.

Table 2.1. Table of code frequency from the mind maps case.

Surveys	**Goals**				**Play**				**Visual**				**Easy**	**Unnecessary**
Sub-codes	Organize	Invention	Analysis	Composing	Fun	Creative	Interesting	New	Big Picture	See	Aesthetic	Visual		
Surveys														
1														x
2		x	x	x					x				x	
3	x	x		x			x	x	x				x	
4				x									x	x
5	x	x		x	x				x	x	x		x	
6	x		x	x	x				x				x	
7	x	x		x			x						x	
8				x	x				x			x	x	
9			x	x								x	x	x
10	x	x							x					x
11	x	x	x	x			x	x					x	x
12	x	x		x			x			x			x	
13	x		x	x		x	x						x	
14	x	x				x				x				
15	x			x					x			x	x	
16	x		x						x				x	
17	x	x					x	x	x				x	
18		x	x	x					x				x	
19		x	x	x		x	x			x	x		x	
20	x	x	x	x	x		x				x	x	x	
Totals	13	12	9	15	4	3	8	3	10	4	3	4	17	3
Overall Totals	**42**				**20**				**29**				**22**	**9**
Overall Surveys	**19**				**12**				**15**				**17**	**5**

The frequency of the patterns within the qualitative responses for an individual question were also recorded and used to aid comparison of the quantitative and qualitative data for the paired questions.

After all forms of data had been analyzed, the next step was to synthesize the data in order to formulate conclusions. This synthesis process consisted of comparing the

results of the different forms of data to identify consistencies or discrepancies. For example, I used the course's and assignment's goals that I had determined by analyzing the course descriptions, assignment, and instructor reflections, and compared those to any goals-related patterns found in the qualitative data as well as to the quantitative results of the survey questions that asked students about how the assignment had related to the course's goals. Based on this comparison I could identify whether there were consistencies or discrepancies in the assignment's intended learning outcomes and the students' actual experience. I formulated conclusions based on this method of comparing the results of the different forms of data.

After all data had been analyzed, the results were synthesized in order to formulate the overall conclusions of the study. This synthesis process involved considering the results in terms of the research questions, and in terms of comparing the cases to one another, and in terms of the theoretical bases of the study. (Bloomberg and Volpe 76).

ETHICAL CONSIDERATIONS

Although I anticipated that participation in this study would not pose any ethical threats to the students, I took several precautionary measures. First, the *SL* case received IRB approval after submitting a proposal that included the problem statement, purpose statement, literature review, research questions, and the methodological approach. The study was modified after the *SL* case, new documents were submitted, and the study was

approved IRB exempt because no identifying information was collected from participants, which allowed me to gather data without obtaining signed consent.

Second, I informed the students of the general purpose of the study, describing it as aiming to determine what their experience of these assignments was like and how useful they found the assignment. However, I did not go into specific details about play theory, the learning goals of the course, or the visual nature of the technologies because I did not want to influence their survey responses. Third, identifying information was removed from all data collected, and all files were kept in a secure location.

ISSUES OF TRUSTWORTHINESS

In qualitative research the trustworthiness of the study is evaluated based on its credibility, dependability, and transferability (Bloomberg and Volpe 76; Merriam 213). Unlike quantitative research, there are no specific measures for qualitative researchers to prove the trustworthiness of their work. For this reason, trustworthiness is established through multiple measures that vary depending on the characteristics of the study.

The validity of this study is based on several different strategies used to ensure that my analysis of the research was accurate. First, as discussed in the "Limitations of the Study" section below, I acknowledged my biases as a researcher and used discussions of the data and research design with advisors and a third-party to monitor the influence of my biases on my interpretation of the data (Merriam 219). In addition, I collected multiple forms of data and used triangulation of that data to corroborate my interpretations of individual types of data (Merriam 215). I also presented negative and

disconfirming evidence where I found it, and allotted appropriate time to the discussion of such results.

The dependability of a study refers to the ability to track the processes and procedures used in the study (Bloomberg and Volpe 78). The dependability of this study was established through detailed descriptions of how the data was collected and analyzed. In addition, because the coding of the qualitative research questions was such a critical component of the analysis, I used two measures to establish the dependability of that particular type of data. First, I designed the survey to include quantitative questions that were paired with the major survey questions. These quantitative results provided an additional check for the coding results. Second, I used a third-party coder to check the validity of my codes. I prepared a third-party coder by explaining the codes, and then we reviewed the codes together after the coding session was completed. Any discrepancies between our codes were reviewed, discussed, and when necessary, the codes were modified. This code-checking session resulted in an inter-rater reliability of 87% and a sample of this coding-check is shown in D.

As Bloomberg and Volpe explain, qualitative researchers do not expect their results to be transferable to all other settings; instead the results will be relevant to similar settings (78). In their words, transferability, "is about how well the study has made it possible for the reader to decide whether similar processes will be at work in their own settings by understanding in depth how they occur at the research site." The transferability of the results of this study is based mainly on the use of the maximum variation sampling strategy (Merriam 227). The selected cases differed considerably in

terms of the assignment, technology used, and the course type, allowing for "the possibility of a greater range of application by readers or consumers of the research" (Merriam 227). Yin also agrees that in multi-case studies, it is possible to achieve "analytic generalizability," where "if two or more cases are shown to support the same theory, replication may be claimed" (39). In addition, detailed descriptions of the courses and assignments also support the transferability of the study.

LIMITATIONS OF THE STUDY

Because qualitative research rests on the interpretations of the researcher, researcher bias is often a significant limitation of qualitative studies. There were three dimensions to my biases in this study. First, as a doctoral candidate focusing on the impact of digital media on the composition classroom, I am invested in the types of assignments investigated in this study. Second, as an instructor, I have used assignments similar to the ones represented by these cases many times in my own courses, and thus believe them to be effective pedagogy. Third, I was both in the same graduate program and an instructor in the same computer lab as all of the instructors for the cases studied. Despite my investment in both the research topic and site, my research questions are legitimate. I wanted to move beyond anecdotal claims about multimodal assignments and hoped to learn from the students' descriptions of their experiences. However, as Johanek notes, all researchers are invested in and passionate about their object of study (93). If they were not passionate about the subject, they would not be researching it.

Another limitation of this study is the small size of the research samples. Two of these cases included only 12 participants, and it is difficult to identify patterns within samples of that size. However, as discussed above, since the purpose of this study was not to be able to generalize about the students' experiences, but rather to better understand the students' experience of digital media assignments, the small sample size is not a critical flaw.

Finally, the study is also limited by the impact that the wording and terminology used in the survey questions had on the results. However, as discussed above, I was careful to word the survey questions as neutrally as possible, to offer students negative ways to describe their experiences whenever possible, and to base my decisions about wording on my literature reviews and pilot studies. In addition, as illustrated by the differences between the *SL* case's survey and the other cases' surveys, the questions were continually reviewed and modified to strengthen their credibility.

Chapter 4: Results and Implications for the Mind Maps Case

"Once the mind map was made, everything was easier to understand."

In this chapter, I will report the results for the mind maps case, beginning with a description of the instructor, his motives, a detailed explanation of the assignment, and the results of the analysis of the maps. Then I will discuss both the qualitative and quantitative results from the survey. Since the survey responses comprise the majority of the data collected, their discussion will also comprise the majority of the chapter.

THE INSTRUCTOR AND ASSIGNMENT

As explained in Chapter 2, the course that used a mind maps assignment was a freshman composition and rhetoric course that emphasized rhetorical analysis and research skills. The instructor, John, a pseudonym, was a graduate student instructor. John had previous teaching experience as a teaching assistant, but this was his second semester as an instructor of his own course. The assignment, which John titled "Stasis: Mapping Your Controversy," was scheduled early in the semester before the first major essay was due. The assignment was intended to help students prepare for this first essay, which asked them to "map a controversy." In the essay, students were to identify at least three stakeholders within the controversy, outline the positions those stakeholders were taking, and analyze the similarities and differences between these positions. The mind map assignment was meant to prepare students to write this essay. It was meant to aid them in the analysis process by employing stasis analysis, while at the same time literally

mapping the controversy using the visual capabilities of mind mapping software. Stasis analysis is a method of invention that poses questions to explore and clarify the major issues in a debate; this method suits this particular essay very well, as students are required to summarize and explain the core issues of the debate.

The assignment (see Appendix E) asked students to work in small groups and use the mind map software, *Novamind*, to create one large map of all of their controversies, with each student's controversy comprising one section of the map. Each student's section was required to include the stakeholders in the controversy, the positions those stakeholders took, and some claims that each position made. After mapping their controversies, the assignment asked a series of questions based on stasis theory to help the students analyze similarities and differences both within the positions in their own controversy, and between the different group members' controversies. Instead of asking students to analyze the different stakeholders, positions or claims of their controversy, John asked them to analyze the different "arms" or branches of their section of the map, referencing the mind maps' visual presentation of this information. Figure 4.1 shows one group's mind map, illustrating that each student's controversy was represented by a different colored branch, or main "arm" of the map. From that main arm, each student added more arms to represent different aspects of their controversy.

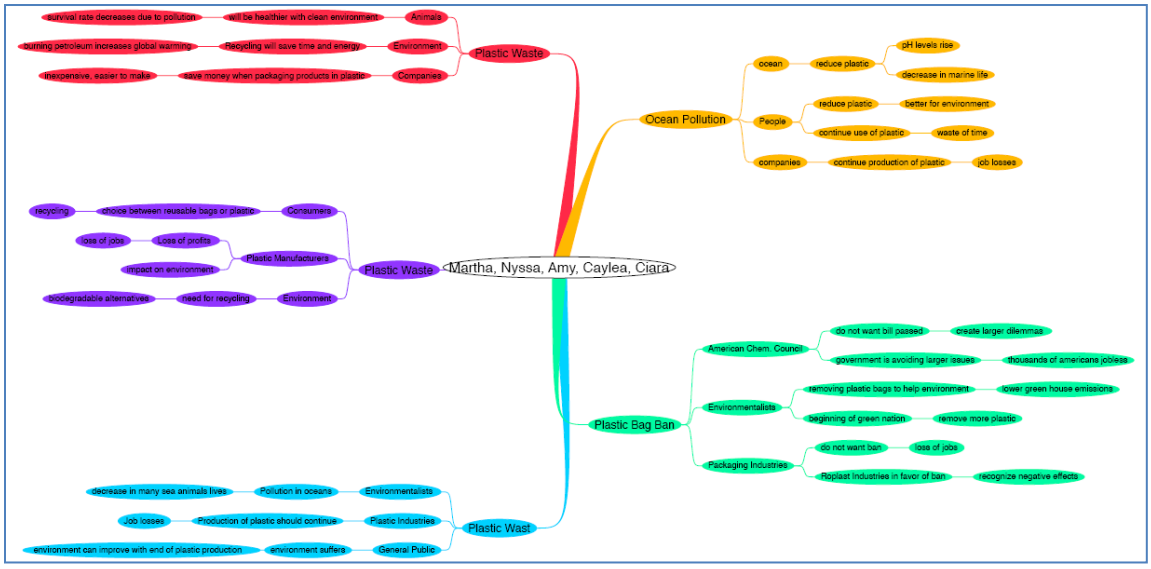

Fig. 4.1. Sample mind map created by a group of students.

Below is the section of the assignment that employed stasis analysis and aimed to help students analyze their controversy:

1. Do some of the arms of your controversy "speak" to other arms more directly than others? Which arms are most like each other? Which arms are most different from the other arms?
2. How do the different arms differ? What distinguishes them from the rest of the map? Use the following terms (where applicable) to articulate the differences you see.
    a) Conjecture: Does something exist? Did an event happen? If so, how can the thing or event be characterized or described?
    b) Definition: How can the thing/event be defined? What kind of thing/event is it?

c) Value: How should the thing/event be valued? What is its quality? Was it right or wrong? Bad or good? Happy or sad? Just or unjust?

d) Policy: What should we do? Should this thing or event be submitted to some formal procedure?

3. Which of the above criteria (a-d) best characterizes the majority of differences you mapped on your mind-map?

As these questions illustrate, the students were asked to perform a complex analysis on these maps, looking at a variety of aspects of their controversy and coming to conclusions based on that analysis. However, they were not required to document their analysis. Rather, these questions were meant to facilitate discussion amongst the group members.

In John's reflection on his goals and motives for the assignment (see Appendix F), he explains that the maps allowed the students to see all of the relationships in their controversy at the same time, and to gain "perspective from which they could see the different natures of disagreements." In addition, the task of arranging the components of the controversy emphasized the connection between stakeholder and position, which John explained, is "an essential cognitive step for getting to the bottom of a controversy and a way of thinking that was brand new to many of the students." Once the students could see all of these relationships, they were, "by virtue of the technology already in a critical position to answer my [John's] stasis questions." In other words, the maps put the students into a position, or gave them a perspective, from which it was easier to analyze

their controversy. From there, John hoped, they could more easily consider what really made the positions different, and what prevented the controversy from being resolved.

John believes that mind maps, like many digital media technologies, allow the students to, in his words, "configure" information and then "interpret" that information. Or in his words, mind maps get the students to use "their eyes and hands to make a 'thing' which they can then manipulate, and all of this moving around is actually requiring them to interpret the information they're looking at." In addition, he knew the mind maps would be unfamiliar to many of the students and hoped they would shake things up and engage students in stasis analysis, which might otherwise not make for the most exciting class period. Again, as John explained it:

> The computers [in my classroom] are big and shiny, and I think that dispelled some of the apathy with which my students were apt to treat this assignment. You know, we get into habits: and one of those is the school habit. You go to class, the teacher asks you to do something, you go through the motions, but you're not really taking anything away with you. But I wagered that if you're looking at that big screen and those bright colors, and when you push a button something happens, you may feel like this is new, and the sense of novelty can be exploited for pedagogical as well as profit-driven ends.

So John's purpose for the assignment was really threefold. He saw the mind maps as an opportunity to help students to see all of the relationships in their controversy, analyze those relationships (both of these activities would be critical for the success of their essay), and be engaged in the process through the novelty of the mind maps.

THE MAPS

Figures 4.1 (above) and 4.2 show an example of the maps created by the students. All of the maps look very similar to this example, so there was little variation in how the assignment was interpreted by the different groups.

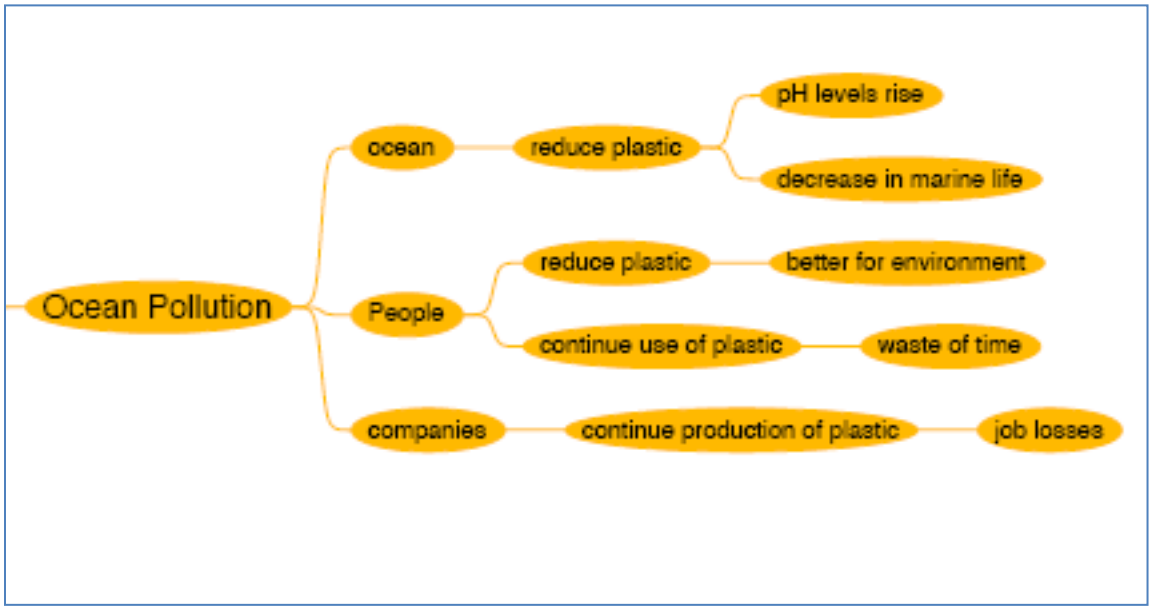

Fig. 4.2. Close-up of Figure 4.1, showing one student's section of the map.

Figure 4.2, which shows a close-up on one student's controversy, is typical of all of the student's maps. It names the controversy very generally as "Ocean Pollution," has three stakeholders, the positions, and one, or at most, two claims made by that position. As Figure 4.2 illustrates, the terminology is very general in all aspects of the map, and it is clear that this is a short-hand version of the controversy. For example, the ocean is named as a stakeholder, and one can surmise that the student might have been referring to environmental groups or possibly communities who are dependent on the ocean for their livelihood.

Across the board, these maps are quite simple. Many of the students added only one claim for each position in their controversy, and only one student came up with more than two claims for a position. None of the maps made use of the software's more advanced capabilities such as adding images, symbols, or text boxes and using the notes feature. This absence of the use of advanced features is likely because these maps were worked on during just one class period, and students were not explicitly instructed to use these more advanced features. In addition, although students were clearly able to map their controversies, there is no evidence of stasis analysis or identification of similarities and differences between or within the controversies. Overall, the simplicity of the maps contrasts with the complexity of the analysis portion of the assignment. However, since students were not instructed to include the results of that analysis in the map, their simplicity is not surprising. The students included what they were required to by John's instructions and nothing more.

The following points summarize the results of the analysis of the assignment, instructor reflection, and the students' maps:

- The assignment asked students to map their controversy and then use the map to help them analyze the relationships between the various parts using stasis analysis.
- John's reflection reveals that hoped the students would benefit from getting a different perspective on their controversy that would help them to see the relationships between the different positions and arguments.

- John's motives were also play-related according to the definition outlined in Figure 1.1; he felt that the novelty of using mind maps would help engage students in the assignment.
- The maps that the students produced were quite simple both in that they did not use any of Novamind's advanced features and that they showed no evidence of stasis analysis. The maps functioned as short-hand versions of the controversy, using one-word concepts to represent entire positions and providing only 2-3 claims for each position.

Initial triangulation of the results of the document analysis shows that the assignment's goals are represented consistently in both the assignment and the instructor's reflection, but there is a discrepancy between the simplicity of the maps and the complexity of the analysis that the maps were meant to help the students perform. The survey results will offer more information about whether the instructor's goals were met, how the maps were actually used, and what the students' experience was like.

SURVEY RESPONSES

Turning to the survey results, which gave me the most direct information about the students' experiences, I will first discuss the qualitative results. All of the qualitative questions came immediately after a quantitative question that asked students about some aspect of their experience of using the mind maps and had them rate a series of options using a Likert-type scale. The qualitative questions asked students to explain their answers to that quantitative question, allowing them to give a written response. So in the

qualitative section I will discuss the qualitative responses as a whole, without considering the question they were responding to. Following standard practice for case study reporting, my purpose here is to point out the major patterns that came out of this case. After establishing the big picture of this case, I will discuss the results in more detail by looking at the quantitative results and comparing them to the qualitative responses for specific questions (Merriam 269; Creswell 194).

Qualitative Results

The initial open coding of the survey's qualitative responses yielded 31 different codes that were reduced and condensed down to 5 codes, which represent the 5 major patterns in the data. The patterns were labeled goals, play, big picture, easy, and unnecessary. Only 2 of the 90 total qualitative responses could not be categorized, and about half of the responses fell into 2 or more patterns. These uncategorizeable responses can be seen in Appendix G. All of the student's responses quoted below have been minimally edited for clarity. Table 4.1 provides an overview of the patterns, including their frequency within the dataset, how many of the surveys they appeared in, and the major sub-codes of the category.

Table 4.1. Patterns in students' qualitative responses about using mind maps.

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Goals	42/19	organize, analysis, invention, composing	Responses that provide specific details about how the mind maps were used in the prewriting and writing processes.
Big Picture	29/15	see, picture, space, visualize	Responses that explain that the maps facilitated comprehension of the "big picture" of the controversy and/or essay, allowing students to "see" all components and relationships at one time.
Easy	22/17	speed, efficiency, ease of use	Responses that describe learning to use the map and its features as "easy," with a very shallow learning curve.
Play	20/12	interesting, creative, engaging, fun, entertaining, enjoy	Responses that describe the experience using terms associated with play.

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Unnecessary	9/5	no effect, busy work, redundant, required	Responses that describe the assignment as having no impact or as a waste of class time.

*The first number indicates the number of times this category appeared in the entire data set; the second number indicates the number of surveys the category appeared in out of 20 total surveys.

Goals. The most common pattern in the student's responses was references to how the mind maps were useful for prewriting or in their composing process; 42 of the written responses were labeled "goals" and the "goals" code appeared in all but one of the students' responses. Within this category, the most frequently described activities were organizing, invention, analysis, and composing, and most of the student's responses explain that two or more of these activities were occurring simultaneously while they used the mind maps. While many of the students actually used the term "organize," none of them used the terms "analysis," "invention," or "composing." Responses that discussed making connections, seeing relationships, or evaluation were categorized as analysis. Responses that talked about idea-generation were categorized as invention. And responses that made references to the writing process were categorized as composing. For example, one student explained how they used the map for both organizing and analysis: "The mind map helped me to organize the components of my controversy and also helped me evaluate the positions that I had." Another response explains using the map for analysis, revision, and invention:

> The mind map was easy to use and connects the relationships between the stakeholders, their arguments and claims. Considering that it is technology based, it was very easy to insert and delete concepts that were within the mind map. Thus, as I changed my topic in my paper, I was able to easily insert new information in the appropriate boxes. The idea of being able to plot out my stakeholders helped me see the picture as a whole visually and made me think of new ideas in which I can incorporate into my paper.

Responses like these were very common, with all but one of the students explaining that they used the mind maps for at least two of these activities (invention, analysis, organization, composing).

These responses, although not surprising considering mind maps were specifically designed as organization, invention, and analysis tools, are striking when compared to the simplicity of the mind maps themselves. These responses indicate that the simple maps produced by students like the one shown in Figures 4.1 and 4.2 above helped the students in their writing processes in a variety of important ways. In addition, although survey responses show that 85% of students did not use mind maps again after this in-class assignment (the implications of which will be discussed below), 15 of the students (or 75%) explained how the maps impacted the final essay or their drafting process. For example, as one student explains, "The mind map helped me understand my controversy further in detail, which then helped me create a better essay." Another explains, "It was a very unique way of summarizing and bringing out the important words on a particular issue, thus making it easier for students like me to write the entire controversy smoothly."

And again, "overall, it gave me a concrete background for writing my bigger controversy." All of these students said that they did not use the mind map again after this assignment was completed in class; however, the experience of the assignment impacted their composing process for this essay. Overall, the frequency with which the goals pattern appeared in the student's qualitative responses indicates that this assignment was a productive one for students, aiding them with the traditional writing classroom activities of invention, analysis, organization, and composing.

Big Picture. Student responses indicate that the visual nature of mind maps is an important component of their usefulness. It seems that the maps were useful for so many different aspects of the writing process because of what they allowed students to *see*. Students made statements like, "mind maps helped me see a lot of things I had missed in my previous out line," and "It showed how my controversy related to other controversies that were on the map and I could see other arguments that could be made." I termed these repeated references to what the mind map allowed students to see "big picture" because so many of the responses explained that the maps allowed them to "see everything," "see the picture as a whole visually," or "see everything I was going to write about." In addition, this capacity to see the big picture supported analysis by enabling students to make connections between the different components of their essay or controversy: "as I filled in the boxes it made me realize how everything pretty much relates to each other." In addition, the big picture aided comprehension: "I was able to see the things that branched off of the controversy, and it simplified what was going on for me." Several students also explained that the mind map was a cleaner, and therefore

more easily understandable, model of their essay: "The affect of the mind map is that it just helps the writer see everything that they are planning to write about. The map is clear and easy to read, instead of writing it down on paper, and everything looks bunched together." Although an occasional student mentioned the visual details of the mind maps (the colors or different fonts), the majority (86%) of responses relating to visual aspects of the tool were about this concept of the bigger picture. As the second most frequent pattern in the qualitative responses, it is also clear that the visual characteristics of the mind maps are central to their usability.

Easy. Almost all of the students described using mind maps as "easy" in the qualitative responses. Most of these responses are referring to learning to use the tool: "the mind map wasn't hard to figure out and use." Some students even enjoyed figuring out how to use the maps, explaining that, "The tools and buttons at the top of the page made it simple to trial and error around a bit as I figured out what exactly to put and how to put it. It was fun to figure out and use." However, it is worth noting that many of the responses indicate that they had minor technical issues early on in learning to use the mind maps or that spacing the various branches of the map to their liking became tedious at times, but that these problems were overcome quickly. As one student explains, "at times it was tedious to do because of the font sizes and the movement of certain bubbles that were placed to make sense, but other than that, I found that it was pretty useful and entertaining." In all of the responses that discussed these technical issues, it was clear that they were a minor problem. Overall, the learning curve for mind maps, at least with the *Novamind* software, seems to be very low. And although ease of use may seem like a

minor issue, it is clear that it contributed to the students' generally positive experience with the maps. As the students explain, "The mind map was easy to understand, and easy to use. I thought it was interesting how once the mind map was made, everything was easier to understand" and "it was initially confusing to work but quickly became easy and an easy way to plan out thoughts." Based on responses like these it seems that the connection between usability and utility should not be underestimated. Because students were not bogged down by technical difficulties, they were able to attend to the higher order uses of the tool and get some level of enjoyment out of the experience.

Play. As explained in Chapter 2, in order to gauge whether or not the students experienced play as they used the mind maps, the responses were searched for terms and concepts related to the various characteristics of play outlined by play theorists Csikszentmihalyi and Brown: creative, engaging, interesting, fun, enjoyable, entertaining, new, experimental. A response was categorized as play if it included a clear reference to one of these play-related concepts; for example: "Users who use a mindmap can make creative answers." Interesting and engaging were by far the most common play-related concepts found in the student's responses, and several of these discussions of the tool as interesting or engaging were related to its novelty. As the students explained, "What makes it so much engaging and interesting is because it's different from the normal, pulling out your pencil and paper and writing it down," and "It wasn't fun using a mind map but it was creative and interesting to use as I had never heard of it before." So for some students, their interest was piqued because the mind maps were a unique or new experience. The latter response also shows that although some students did not

experience play in its common sense (as fun or enjoyment), they did experience the less commonly understood characteristics of play, like interest and creativity, included in the definition of play outlined in Chapter 1 (Table 1.1). Responses that indicate that the experience was interesting and creative, but not fun, are examples of what play looks like in a work or classroom setting and thus are also categorized as play.

However, more often, references to play were linked to the goals pattern in responses that described the experience as both enjoyable and useful, or as one student explained, it was "an easy and fun way to organize thoughts onto paper." And references to play were often linked to the tool's visual characteristics as well. For example, one response said that, "The visual nature of mind maps creates a fun, interesting, and engaging atmosphere." And another student said, "Visually the mind maps can help broaden a person's topic of controversy if the person needs help getting ideas from other sources. This makes mind maps useful and engaging." These quoted responses, like many of the ones given above, are beginning to show a repeated overlap between the goals, big picture and **play** patterns, indicating that it was difficult to talk about the visual aspects of the mind maps without also talking about the ways in which they were useful (goals), and the experience of using them (play), and vice versa for each of these patterns. However, looking at just the significance of this play pattern, these responses indicate that John's strategy of using the mind maps to engage students in the assignment was successful with over half the class.

Unnecessary. Although only a handful of the student responses described the mind maps as unnecessary, this pattern is worth noting because it stands in stark contrast

to the other patterns. There were three students who clearly felt that the mind maps assignment was a waste of time. As one student explained, "Using mind maps was unnecessary and time consuming." The assignment had "no effect" and was "busy work." Another student explained that the mind map was redundant: "yes, it helped me think more about my controversy and order it into a functioning essay; however, you get the same result with a number list." Here it seems that the student did find the mind map assignment useful, but no more than paper or word processer-based outlining and organizational methods. Based on my pilot study on mind mapping discussed in Chapter 2, these responses, and their relative infrequency, are to be expected. The pilot study results also showed that there is a significant minority of students that sees little difference between a linear outline created in a word document or handwritten, and the visual-spatial "outline" created in a mind map.

Finally, the response of another student who did not get much out of the assignment illustrates another facet of the unnecessary pattern. This student had used mind maps before, and thus explained that "there was not too much new information." That response is particularly interesting in light of other students who said that they found mind maps interesting or creative because it was new to them, which I noted when I discussed the play pattern above. This student seems to have gotten little out of the assignment because the software was not new to them. This also aligns well with theories of play which, as explained in Chapter 1, note that novel experiences are often also playful experiences (Brown 92, 126). The responses that fall into the unnecessary

pattern illustrate that not all students are going to benefit from visualization tools like mind maps and that the newness of a tool may be critical to its reception by students.

Quantitative Results

Now that the patterns in the qualitative survey results have been established, I will discuss the results in more detail, explaining the results for each quantitative question that was designed to elicit direct responses to my research questions. Following the structure of pairing quantitative and qualitative questions explained in Chapter 2, I will discuss the results for a quantitative question and then compare them to the qualitative patterns that appeared in the responses to the paired version of that question, noting consistencies and discrepancies between the two forms of data. In addition, the results have also been organized into sections based on my research questions, and each section discusses the survey questions that were designed to help answer a particular research question. Before referring to averages and percentages that came out of the quantitative results, it is important to note again that this class, like most writing classes, was very small, and thus my data set is very small. Of the 22 students enrolled in this class, 20 responded to my survey.

The Experience

The first question was designed to answer my first research question, "Do students find multimedia assignments to be playful, creative, or engaging experiences?" It asked the students to describe their experience using the mind maps by using a 5-point Likert-type scale ranging from 1 to 5 (strongly disagree /strongly agree) to rate the

following descriptors: fun, interesting, creative, easy, boring, frustrating, confusing and difficult. The results for this question in means and standard deviations are shown in Figure 4.3.

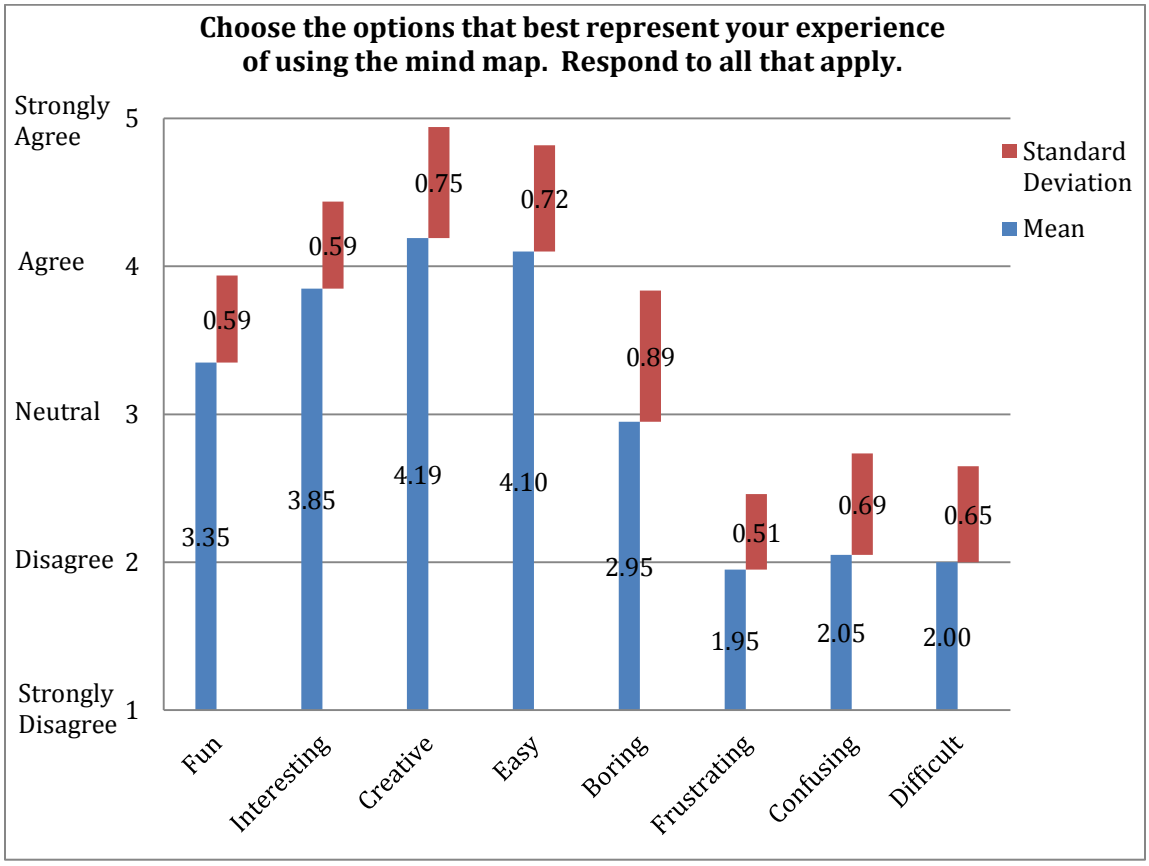

Fig. 4.3. Results for the experience question in means and standard deviations.

With the average response at close to four, students generally agreed that the experience of using mind maps was interesting, creative and easy. However, it is important to note that 75-90% of students agreed or strongly agreed that these tools were both creative and interesting to use. Not surprisingly, students were more neutral about describing the experience of using mind maps as fun, with responses averaging closer to

neutral at 3.35. Looking at the negative descriptors, students generally disagreed that the experience was frustrating, confusing, or difficult, with the averages for these descriptors at about 2. And again, 75-90% of students disagreed or strongly disagreed with those negative descriptors. Similar to the "fun" descriptor, students on average were neutral (2.95) about whether or not mind maps were boring to use. However, boring also had the highest standard deviation of the group, at .89, indicating that there was little consensus about this descriptor. The detailed results for this question, in percentages, are shown in Figure 4.4.

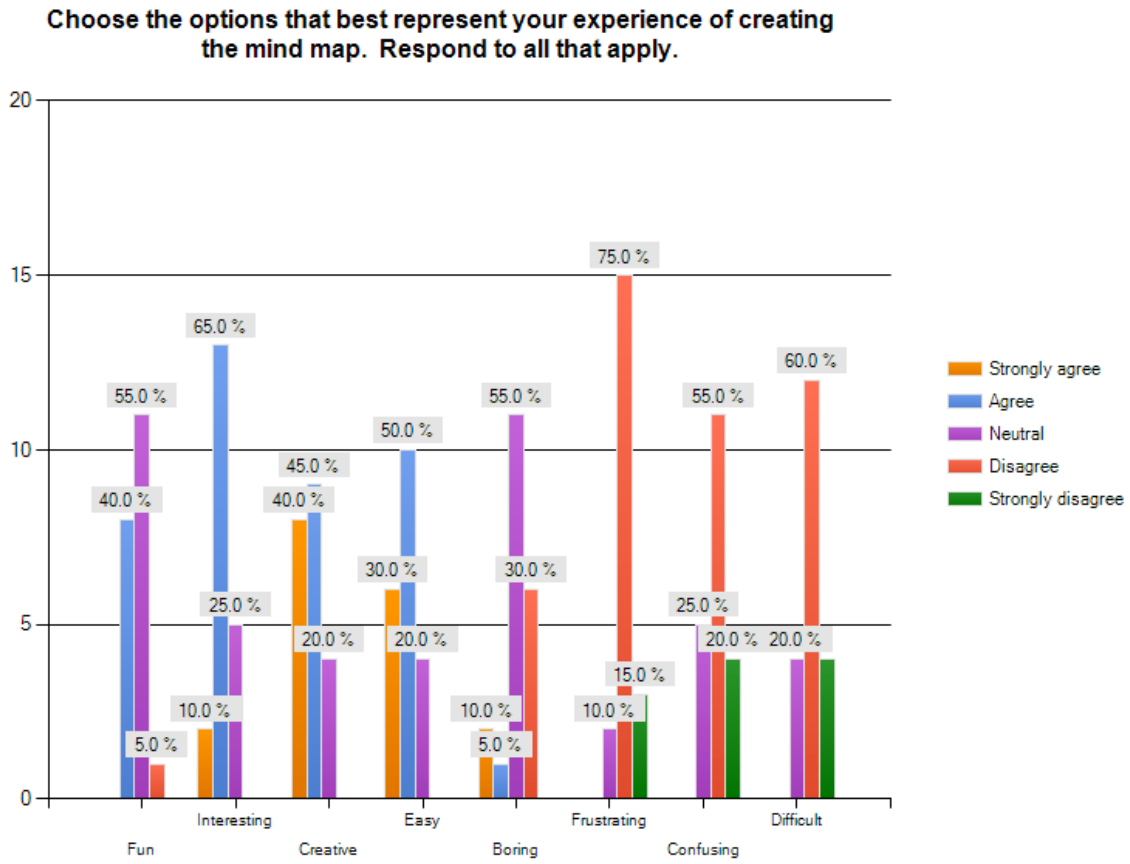

Fig. 4.4. Detailed responses to the experience question in percentages.

Analysis of the responses to the qualitative, "Explain your answer," question showed that almost all (17 of 20) of the responses can be categorized as goals (12 responses), easy (10 responses) and/or play (9 responses) patterns. These results also align well with the quantitative results—most of the responses describe the experience of using mind maps as easy, interesting, and creative. However, there was a major discrepancy between the quantitative and qualitative responses. In the qualitative responses the goals pattern appeared just as frequently as the easy or play patterns. There is no data about goals or how the maps were used from the quantitative responses because, of course, no such options were offered. So, even though this question only asked students to describe their experience, in the qualitative responses they described *how* they used the maps, or what they were useful for. For example, this student's response strictly discusses its utility: "I [sic] felt that the mind map software was a useful tool to use in order to correctly and efficiently organize my paper." The high frequency of the goals pattern in these written responses seems to indicate that students did not differentiate between the experience of using the mind maps and their utility.

Relevance to Learning Goals

The next quantitative question was designed to answer my second research question: "Do students view these assignments as related to and supportive of the more traditional goals of the course?" The question asked, "Choose the options that best describe what you like about mind maps, if anything. Respond to all that apply." The

students then rated the following four statements about how mind maps were useful, each of which corresponds to one of the processes that mind maps were designed to facilitate: "It's easy to make changes and alter the relationships between ideas" (analysis and organization), "It simplified the controversies for me" (analysis and comprehension), "It allowed me to think about my controversy visually" (visual thinking), "It helped me to see something new about my controversy" (invention). Students again rated these statements using a 5-point Likert-type scale ranging from 1-5 (strongly disagree /strongly agree). The results for this question in means and standard deviations are shown in Figure 4.5 below.

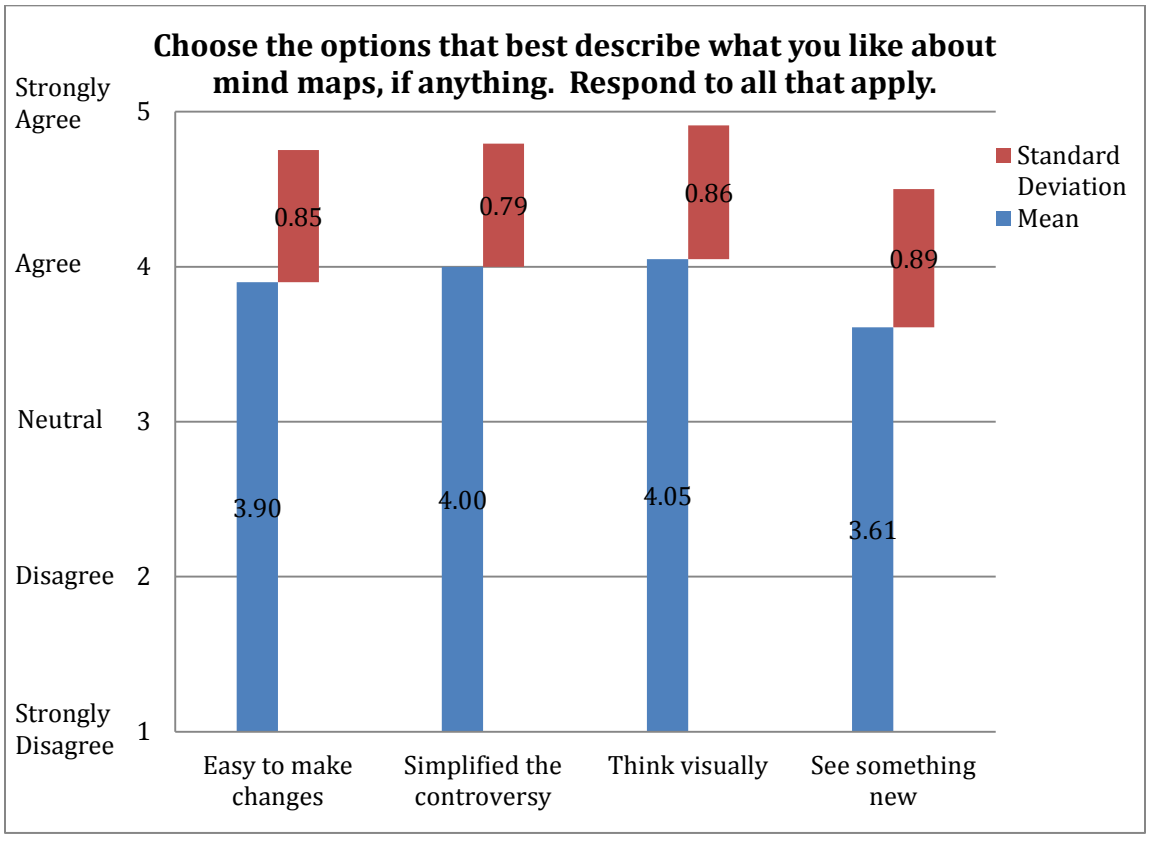

Fig. 4.5. Results for the utility question in means and standard variations.

As Figure 4.5 illustrates, students on average agreed with all of these statements, and the detailed results show that 70-80% agreed or strongly agreed with all four. However, the standard deviations for this question are high, indicating that there was a wide range of responses, and the detailed results show that 10-30% responded "neutral" to these options, and 5-10% responded "disagree." Figure 4.6 shows the detailed quantitative results for this question in percentages.

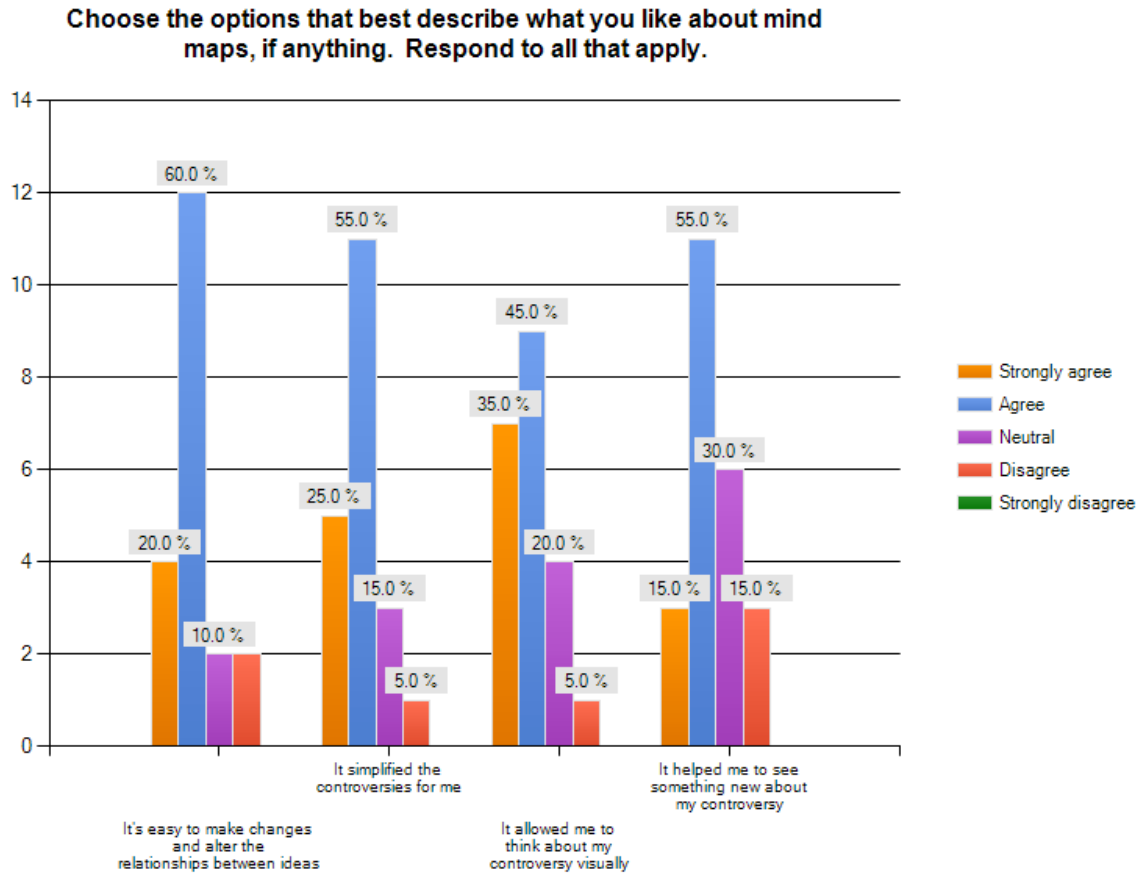

Fig. 4.6. Detailed responses to the utility question in percentages.

In general, the quantitative results show that most students found the maps useful in a variety of ways and reflect the high number of qualitative responses to the previous question relating to the goals pattern. These numbers are also confirmed when we look at the paired question that asked students to explain their answer, where most students elaborated on why the maps were useful for organization, invention, analysis, or to get visual sense of their controversy. In addition, the majority of these qualitative responses (14 of 19) could be categorized as goals and/or big picture. And of the 12 responses categorized as goals, eight were also categorized as big picture, indicating a high correlation between the visual characteristics of the mind maps and their utility. However, about 25% of the qualitative responses described the assignment as unnecessary or as not having a significant impact on their writing process, which accounts for the "neutral" or "disagree" responses in the quantitative results.

The next question asked students about what they disliked about mind maps in order to give them an opportunity to discuss possible down-sides of the technology or the overall experience. This question asked, "Choose the options that best describe what you disliked about mind maps, if anything. Respond to all that apply." Again, the students rated a series of options on the 5-point Likert-type scale. Those options were, "The visual representation of the controversy was confusing," " It's difficult to use," "It's tedious to use," " The visual aspect of the software was distracting," "Using the software seemed unnecessary for the assignment." The results for this question are shown in Figure 4.7 in means and standard deviations.

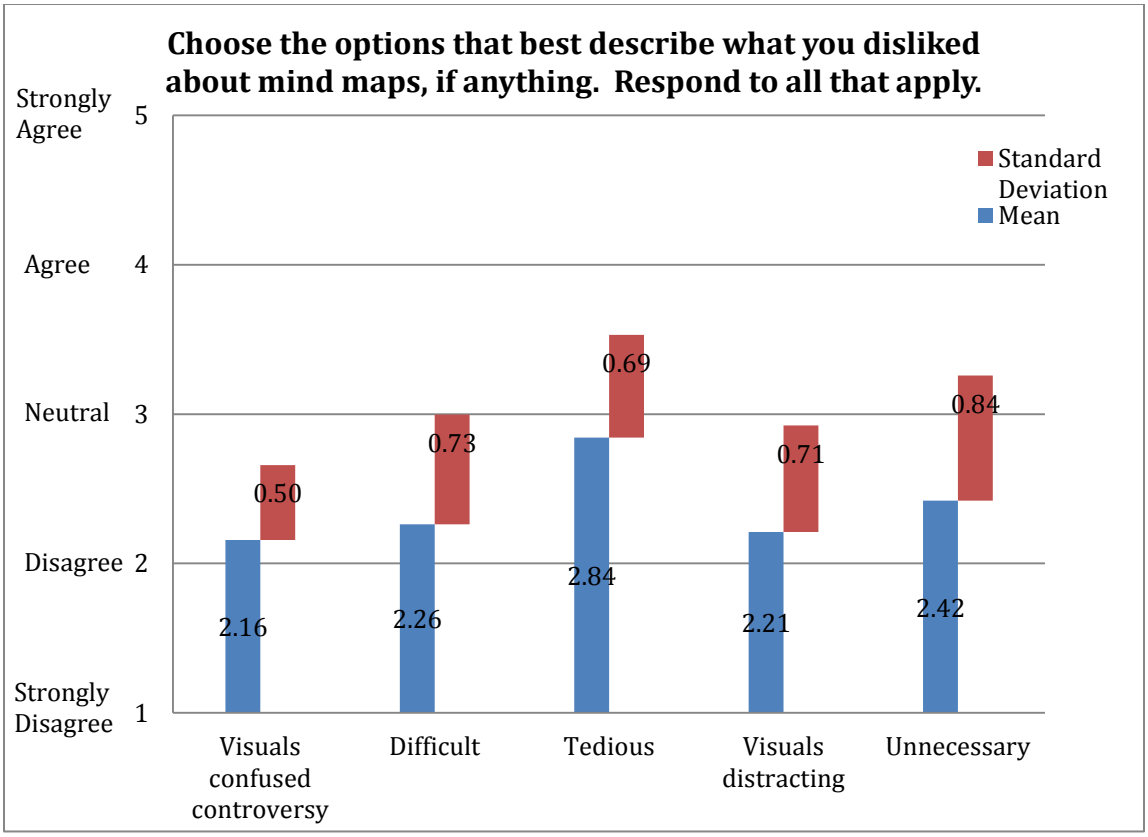

Fig. 4.7. Responses to the negative factors question in means and standard variations.

Although these averages indicate that the majority of students disagree with all four statements, they are all above a two, indicating that a significant portion of the students responded "neutral." The only exception was "It's tedious to use," which has a much higher average of 2.84, and where a majority of 52.6% responded "neutral." "It's tedious to use" also received the highest percentage of "Agree" responses for any category, with 15%. The detailed results for this question in percentages are shown in Figure 4.8 below.

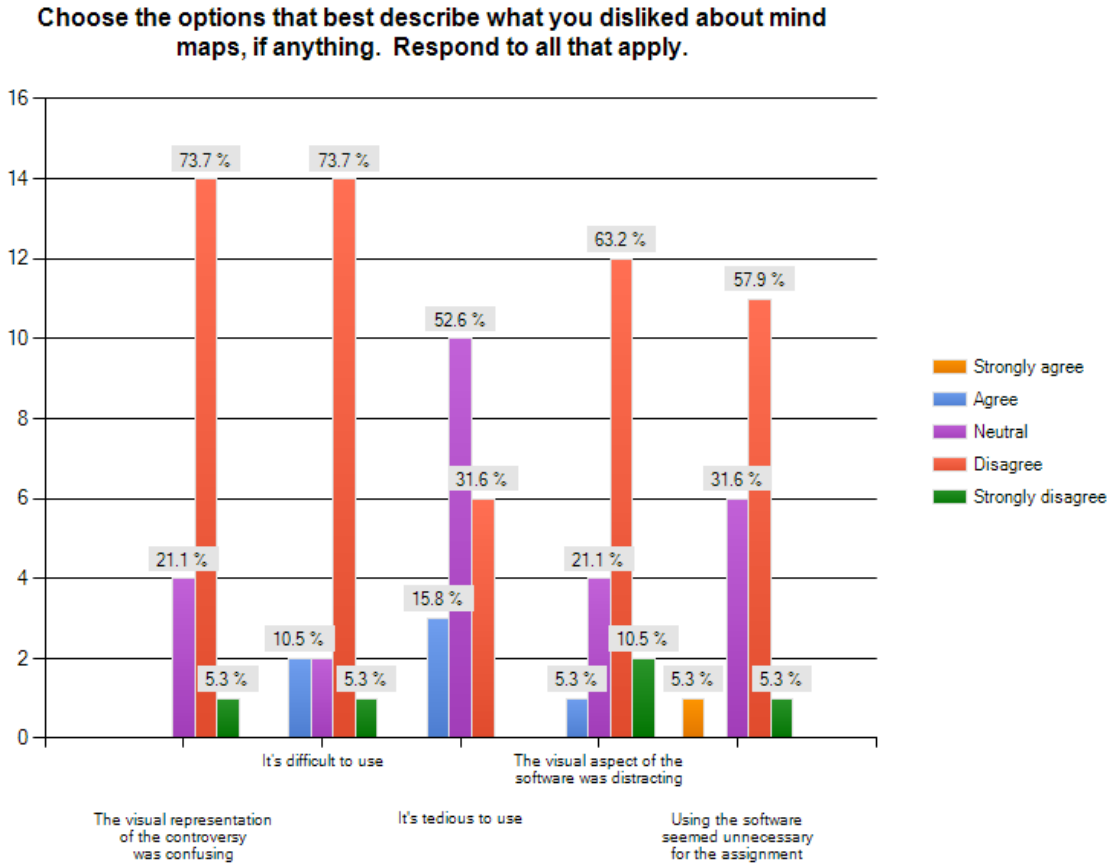

Fig. 4.8. Detailed responses to the negative factors question in percentages.

Of the 18 written responses, four explained that although their experience with the mind maps was positive, arranging the branches, changing font size, and generally refining the appearance of the map was what made the experience a bit tedious. All of these responses indicated that this was a minor aspect of the experience, and this ambivalence about the tediousness of the experience seems to account for the higher average response for "It's tedious to use" from the quantitative question. Three of the responses were neutral, describing the experience as, "just another resource tool to help

with my essay," and two responses were clearly negative, describing the experience as unnecessary: "Using mind maps was unnecessary and time consuming." However, despite these negative or ambivalent responses, overall, the majority of the students had positive things to say about the maps, explaining that, "Aside from having to take the time to organize the bubbles so that they didn't overlap, I don't have anything to dislike about the mind maps."

The Visual Components

The next question was designed to answer my final research question that asked about the impact of the visual nature of digital technologies. The question read, "What effect do you think the visual nature of mind maps has on the experience of using them? Respond to all that apply." The options offered used similar terminology to that used in the first question. They were, "It makes them fun to use," "It makes them interesting to use" and so on with creative, easy, difficult, frustrating, and confusing. However, I omitted "boring" and added "It has no effect" as an option because I felt that very few students would describe the visuals as boring, and that "It has no effect" might be more applicable. Again, the students rated these options on the 5-point Likert-type scale. The results for this question in means and averages are shown in Figure 4.9 below.

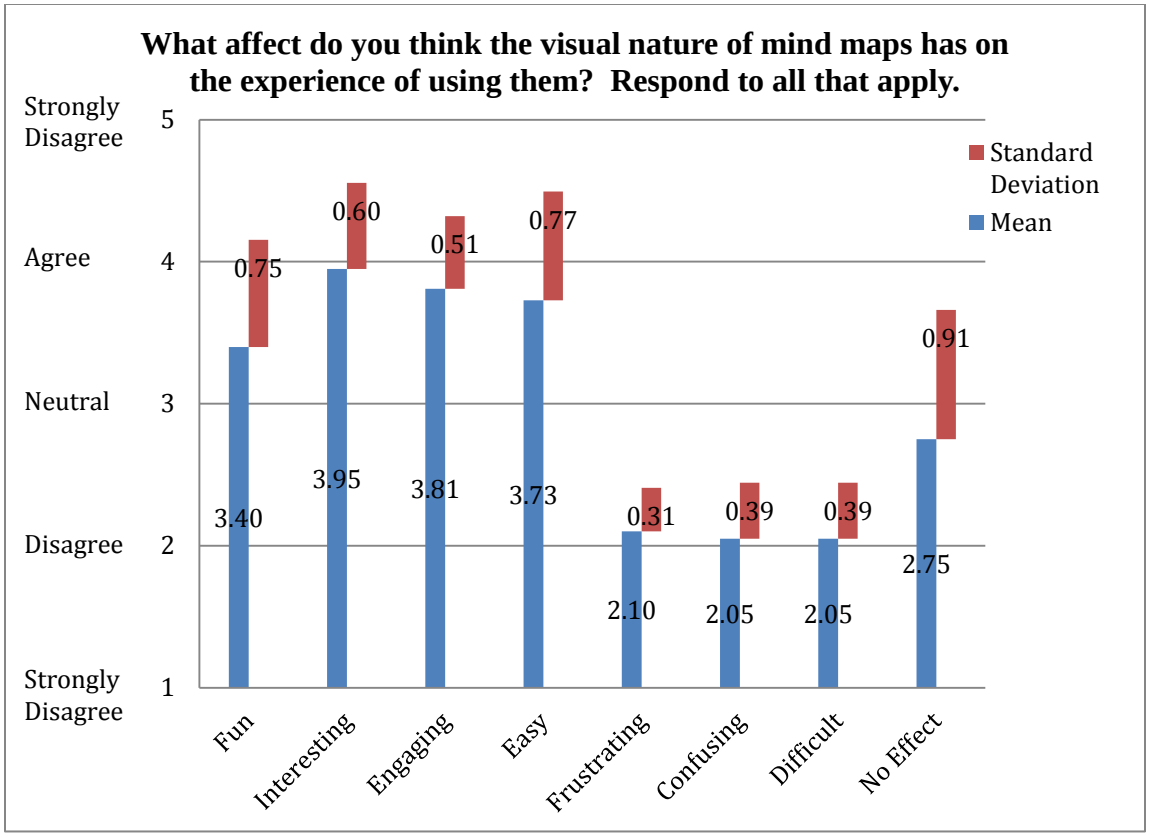

Fig. 4.9. Responses to the visual nature question in means and standard deviations.

The results here are generally similar to those of the first question. On average students agreed that the visual nature of mind maps made them interesting, easy and engaging to use. However, here significant numbers were ambivalent on these points with 20-25% choosing "neutral." Again, fewer students agreed that the visuals made the mind maps fun to use, with the average response much closer to neutral at 3.4. Moving on to the negative descriptors, students clearly disagreed that the visual aspects of the tool made the experience frustrating, confusing, or difficult. For those three options, we also find the lowest standard deviations in the entire data set, which is confirmed by the fact that 90% of students disagreed or strongly disagreed with all three of those options. For

the “It has no effect” option, students responded close to neutral, with an average response of 2.75. However, this option has one of highest standard deviations so far at .91, indicating a low level of consensus amongst the students on that response. The detailed responses for this question in percentages are shown below in Figure 4.10

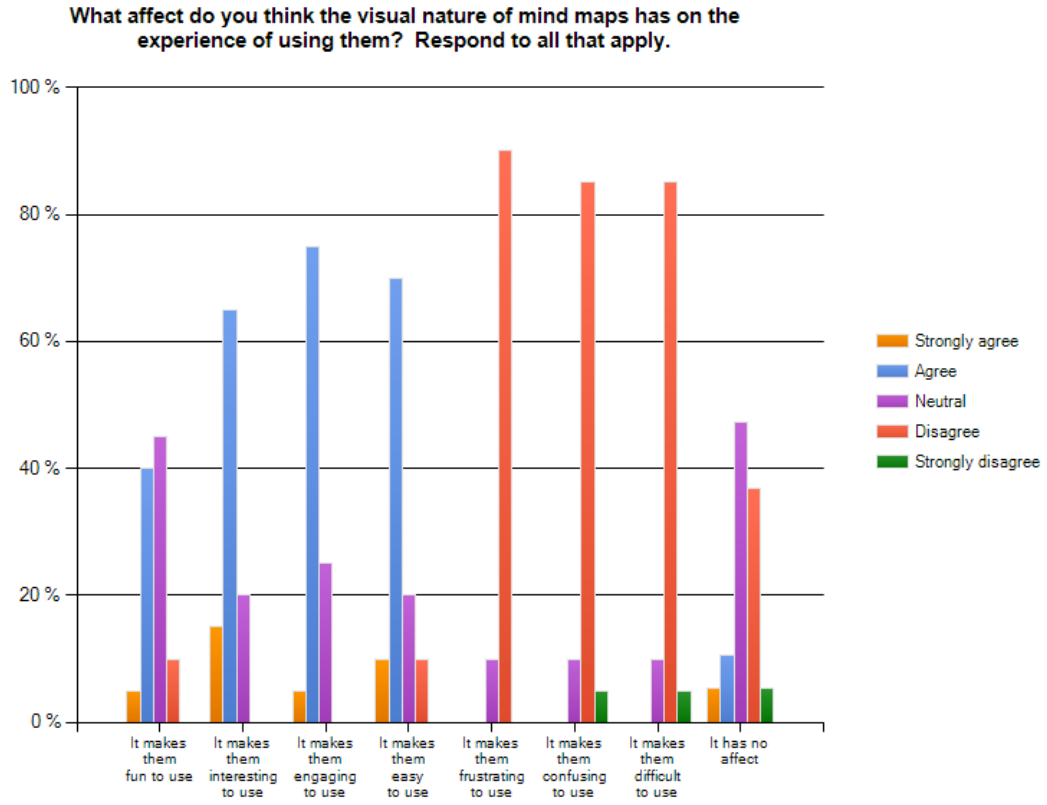

Fig. 4.10. Detailed responses to the visual characteristics question in percentages.

Only 16 of the 20 survey respondents chose to explain their answer for this question, but of these 16 responses 14 were positive, confirming the quantitative results. Not surprisingly, most of the qualitative responses related to the big picture pattern, but many students also connected the visual nature of the tool to its usability, creativity, and

ease of use as illustrated above in my discussion of the big picture pattern. For example, one student explained that, "The visual nature of mind maps creates a fun, interesting, and engaging atmosphere. I love the color schemes on the mind maps when comparing to your peers' ideas and thoughts. It was very simple to use with a click of the mouse and a tap on the keyboard." And another student said, "They [the visual components] allowed for an easier way to express the mapping I had done on paper and put all the information together and helped connect the ideas." Based on statements like these it seems that for many students the mind maps were useful, engaging and easy to use because of their visual characteristics.

Future Use and Overall Attitude

The last few questions of the survey were intended to determine if the students had used or intended to use mind maps on their own because voluntary use is an indicator not only of how useful the mind maps were to the students, but also of how much they enjoyed them or were engaged by them (Brown 17). However, it is important to note that voluntary use was not included in the definition of play outlined in Figure 1.1 of Chapter 1. This is both because voluntary participation does not apply to the classroom setting (all of the study participants were required to use these technologies), and because, as Csikszentmihalyi argues, the requirement of voluntary participation does not apply to play (or flow) that occurs in work settings. The survey results show that only 15% of the students had used mind maps on their own since the end of the in-class assignment. However, when asked if they planned to use mind maps in the future, 26.3% responded

"absolutely," 73.7% responded "possibly," and none of the students said they would not use them again. Figure 4.11 shows the student's responses when asked how they thought they would use the mind maps.

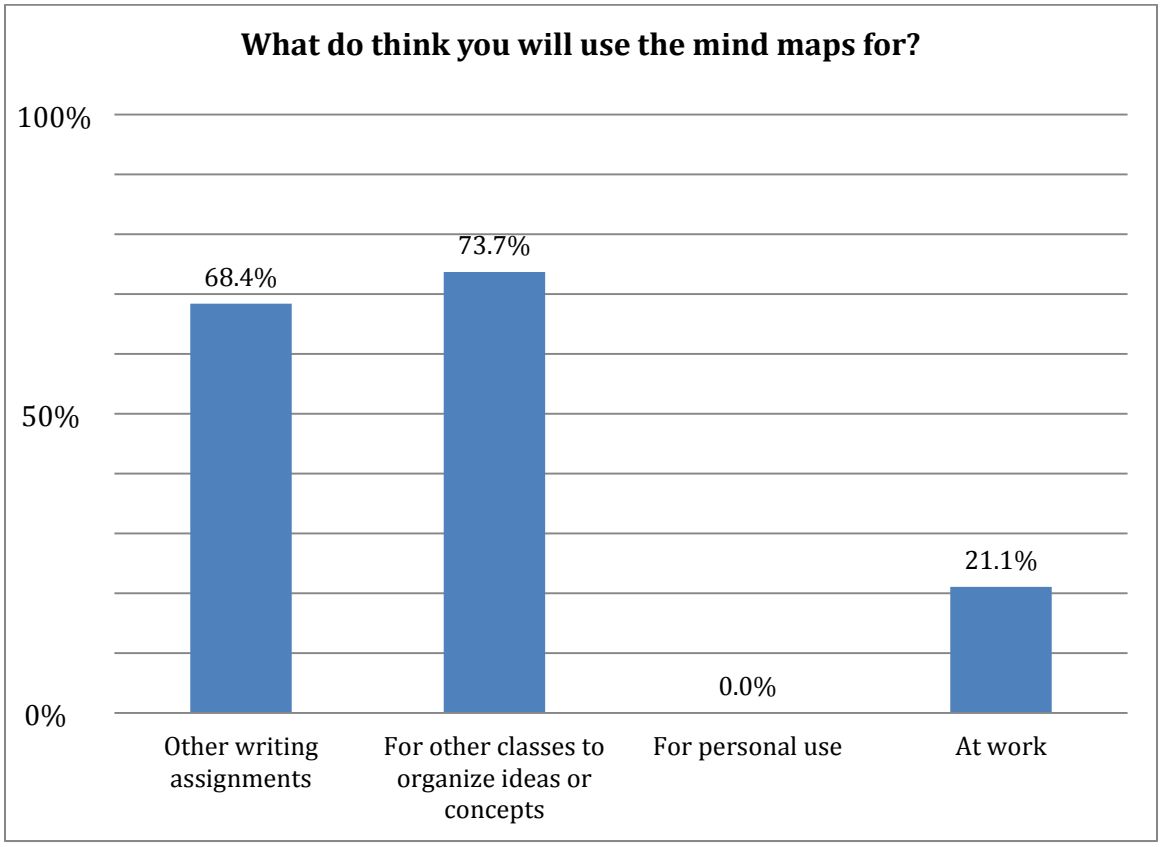

Fig. 4.11. The ways that students thought they might use mind maps in the future.

When asked to explain these answers, almost all of the responses, not surprisingly, were related to the goals pattern. Most of the responses discussed using mind maps to prepare for a writing assignment, and organization and invention were the most frequently mentioned activities.

Below is a summary of the major findings of analysis of the survey results:

- The written survey responses most frequently included discussion of how the mind maps were useful (the goals pattern) and how they provided a sense of the bigger picture of the controversy (the big picture pattern).
- Both the play pattern and the qualitative responses indicate that students generally enjoyed using the mind maps and found them creative, interesting, easy to use, and, for some, even fun. However, there is more emphasis on the usefulness of mind maps than on the experience of using them.
- The majority of students found the visual aspects of the mind maps made them creative, interesting, and easier to use, which is corroborated by the prevalence of the big picture pattern.
- In general, across all quantitative questions, about 75% of students gave positive responses and about 25% gave neutral or negative responses about the assignment. This confirmed by the qualitative results in that the unnecessary pattern appeared in 25% of the students' surveys.

Initial triangulation of these survey results with the document analysis results shows that John's goals for the assignment seem to have been largely successful. The maps helped students to gain a new perspective on their controversy that aided analysis, organization, invention, and composing. They also found the assignment to be interesting and creative, which is evidence of increased engagement as John had hoped. There is, however, no evidence of stasis analysis in the survey results, the implications of which will be discussed further below. Finally, the survey responses contrast sharply with the maps themselves, which were quite simple. It seems that the maps themselves

are not an important indicator of how they were used since the students describe finding the maps useful for a variety of writing activities.

IMPLICATIONS OF RESULTS

When considered in terms of my first research question, these results indicate that the students' experience with the mind maps was somewhat playful; the majority of students (75-85%) found it both interesting and creative, and 40% even went so far as to agree that the experience was fun. In addition, 60% of students used concepts associated with play to describe their experience in the written responses. These results largely confirm the anecdotal claims about pedagogical uses of mind maps reviewed in Chapter 2, which posited that mind maps engaged and "energized" students and offered a new perspective on the course's content (Budd; Brinkmann; Erickson and Hauer). The students found the assignment to be an interesting, creative, and somewhat fun method of approaching prewriting activities.

Although play was an important feature of the students' experience, the play pattern appeared relatively infrequently in the written survey responses in comparison to the other patterns: the play pattern appeared in 22% of the written responses as opposed to 46% for the goals pattern and 32% for the big picture pattern. The frequency of the goals and big picture patterns illustrates that the students' experience might most accurately be described as useful, and it was useful in a variety of ways: for organization, invention, analysis, composing, and for understanding the "bigger picture" of their controversy. This is further supported by the fact that the written responses indicate that

students did not clearly differentiate between the experience of using the maps and what they found them useful for: when specifically asked to describe the experience, the responses most often pertain to how the tool was useful. These results also show that the mind maps did support the traditional goals of the writing classroom. It is not surprising that the maps were successful in engaging students organization, analysis, and invention because these are the types of activities that mind maps were specifically designed to facilitate (although there are many software applications designed to facilitate something (creativity, productivity, etc.) that fail to do so). However, it is surprising that 75% of students explained that the mind mapping assignment impacted their essay in a positive way because 85% said they had not used the maps again since the end of the in-class assignment. Thus, it seems that even though students didn't use their mind map while drafting, they still felt that it impacted their essay. The significance of this data is unclear. It may indicate that although students may not have opened up the mind map file and looked at it, using the mind maps for prewriting had an impact on their drafting process. However, the lack of voluntary use of the maps seems to conflict with the students' statements about the usefulness of the tool and their generally positive experience of using the tool. It is possible that despite the students' positive experience and the usefulness of the maps, the introduction of mind maps in the classroom setting as a mandatory assignment may have influenced students to view mind mapping as work and thus not something they would engage in voluntarily.

When considering the success of John's specific goals for the assignment, the written responses indicate that his goal of using the maps for stasis analysis was not

successful. None of the students mentioned this aspect of the activity and none used terminology related to the stasis portion of the activity. Instead, students described analysis using very general terms, like "seeing relationships," "making connections," and so on, which describe precisely what you would do in stasis analysis. Thus, it is possible that students did successfully use stasis analysis during the assignment, but the language of "stasis" was not yet natural or obvious for them. In addition, students were not prompted by the survey to talk about the stasis portion of the assignment in particular, which may also explain this absence.

However, John's other goal of using mind maps to help students see the relationships between the various components of the controversy was highly successful based on the frequency of the "big picture" pattern. It seems that being able to look at all of the relationships at once in the mind map helped students to better understand those relationships. Many of the students' statements about the big picture that the mind maps gave them recall Gee's discussion of the importance of models in playful learning from Chapter 1. Considering the big picture pattern in terms of Gee's theory, it seems that the students may have benefitted from the mind maps because they provided a model of their controversy, a more manageable version that then facilitated analysis, arrangement, and invention processes.

Overall, this assignment seems to have been successful when we think of it in terms of the traditional goals of the writing course that aim to get students to spend more time on pre-writing activities like analysis, organization, and invention. It is also possible that just engaging in those pre-writing activities seems to have helped the students with

their drafting process, even if they did not actually use the mind maps during that drafting stage. Although further research is needed, these results also seem to offer further support for the ecological model of writing discussed in Chapter 2, because students seem to have benefitted from being able to engage in multiple prewriting activities simultaneously.

Finally, based on the frequency of the "big picture" pattern in the written responses and the positive responses to the question about the impact of the visual characteristics, it seems clear that the visual aspects of the mind maps are an important part of why the tool was both a useful and playful experience. However, references to the visual characteristics of the maps appear throughout the survey regardless of the question, and in many cases are mentioned as the students were discussing how interesting or useful the maps were, blurring the lines between the studies categories of experience, usefulness, and visual characteristic. This ambiguity about what role the visual aspects of the mind maps played in the students' experience, however, is consistent with Arnheim's theories about visual thinking discussed in Chapter 1. Arnheim argues that we underestimate the role that the senses, particularly vision, have in thought (94). Overall, "Any act of productive learning consists of an intimate interaction of observation and reasoning" (95). This understanding of the close relationship between vision and thought explains why students would have made references to the visual aspects of mind maps and visual concepts in general throughout their surveys, especially since mind maps are specifically designed to take advantage of visual thinking and the important relationship between sensory information and reason.

Overall, this case illustrates that students did find the mind mapping assignment to be a somewhat playful experience, but there was more emphasis in the student responses on how useful the assignment was. These results are not surprising in light of the widespread use of mind maps in the many different fields discussed in Chapter 2. However, in terms of this study's emphasis on to what extent multimodal tools enable students to have playful learning experiences, the results of this case emphasize utility over play and give an indication of the complexity of the relationship between play and work. Chapter 5, which reports on the *Google Maps* case, will provide an interesting comparison to these results, as using *Google Maps* in a writing classroom is a newer and more radical pedagogy.

Chapter 5: The Results and Implications for the *Google Maps* Case

"*Google Maps* help you to visualize where the books were/are banned, while giving you critical information about the time period."

This chapter will report the results and conclusions of the *Google Maps* case. Following the organization of Chapter 4, the instructor, the assignment, the instructor's reflection, and the maps themselves will be discussed first. The survey results will follow and will take up the majority of the chapter.

INSTRUCTOR AND COURSE

The course that used the *Google Maps* assignment was an introduction to Literature course, attended mostly by sophomores and juniors, which aimed to introduce students to literary analysis and to strengthen their writing and research skills. This course was titled "Banned Books" and all of the novels read by the class had been banned or challenged. The instructor, Samantha, a pseudonym, was an English doctoral student who had been teaching her own courses for two years. The *Google Map* assignment was part of a larger group presentation assignment, which Samantha titled "Literary Criticism Presentations" (see Appendix H). Samantha divided the students into small groups, assigned each group one of the course's novels, and tasked them with presenting a scholarly article about the novel and creating a *Google Map* of the novel's censorship history. To construct the *Google Map*, the students had to research the censorship history of the novel and create place marks indicating the location of the censorship events. The map was also required students to include a "statement of how this history relates to the

novel's social/political/cultural significance as discussed in the scholarly article". Thus the map functioned as one component of the presentation that was focused on discussion of the scholarly article. In addition, Samantha modeled the use of *Google Maps* using maps she created herself that functioned as presentation tools for background information about the novels in her classroom. On the first day of discussion of each novel, she presented a *Google Map* that mapped the life of the author. Although the students created and presented four maps, the class viewed and discussed a total of eight maps over the course of the semester.

It is important to note that these maps were multimodal texts. The "My Maps" feature of *Google Maps* allows users to make their own maps by adding placemarks, which appear as pop-up windows over the maps itself. Users must give these placemarks titles, and they can also add text, images, video, and hyperlinks. A list of the placemarks also appears on the side of the map, which allows the user to represent chronological or otherwise ordered relationships between the placemarks. In addition to placemarks, users can draw lines, or borders on the maps.

In her reflection on the assignment (see Appendix I), Samantha presents the following question as the central purpose of the assignment: "What might a geographical exploration of the critical reception of a novel reveal about 'the text in the world'—how the novel circulates culturally?" Samantha saw the assignment as an exploration of what the maps might bring to the class's discussion of the "textual, historical, and cultural" significance of the novel. She also explained that the maps would "familiarize students with the research process necessary to write an analytical research paper in the

humanities" and teach students about the censorship history of the novels. She also thought that a visual representation would be "interesting" for the students and that they might find it a "fun novelty." Samantha's purpose for the maps was two-fold: she felt a geographical representation of the novels' censorship histories could bring interesting insights to the class's analysis of the novels, while simultaneously giving their discussion a visual dimension that she thought the students would find engaging and fun.

THE MAPS

I was able to collect three of the four maps created by the students: Vladimir Nabokov's *Lolita*, Edna O'Brien's *Country Girls*, and Maya Angelou's *I Know Why the Caged Bird Sings*. However, Samantha included remarks about the uncollected map (on Dorothy Allison's *Bastard Out of Carolina*) in her reflection, which allows for some comparison to the others. Since Samantha's requirements for the maps were relatively simple (she gave no specifics about how many placemarks to include or whether images and links were necessary), the maps vary considerably. The number of placemarks ranges from 9-16, and 2 of the 3 maps used images and links. The assignment did require that the maps include a conclusion that linked the censorship history to the scholarly article that was the focus of the students' presentations. In response to that requirement, both the *Lolita* and *I Know Why the Caged Bird Sings* maps included clear conclusion sections that tied the criticism of the novel to its historical and/or cultural context: one included a placemark labeled "Conclusion" and the other put a conclusion in the map's

main description area. The *Country Girls* map's conclusion was more subtly brought in by its discussion of various aspects of the novel's reception and historical context.

In addition, because Samantha gave no specific descriptions of what a censorship history should entail, the maps also vary on what information was included. The maps of *Lolita* and *I Know Why the Caged Bird Sings* focus solely on the censorship history, giving dates, locations, and rationales for the censorship or challenge. The map for *Country Girls*, however, is more focused on discussion of the critical reception of the novel in general and the historical and cultural context of the novel. This map gives a brief history of the Irish Censorship Board (O'Brien is an Irish writer), as well as an explanation of the prevalence of conservatism in Ireland in the years before the publication of *Country Girls*.

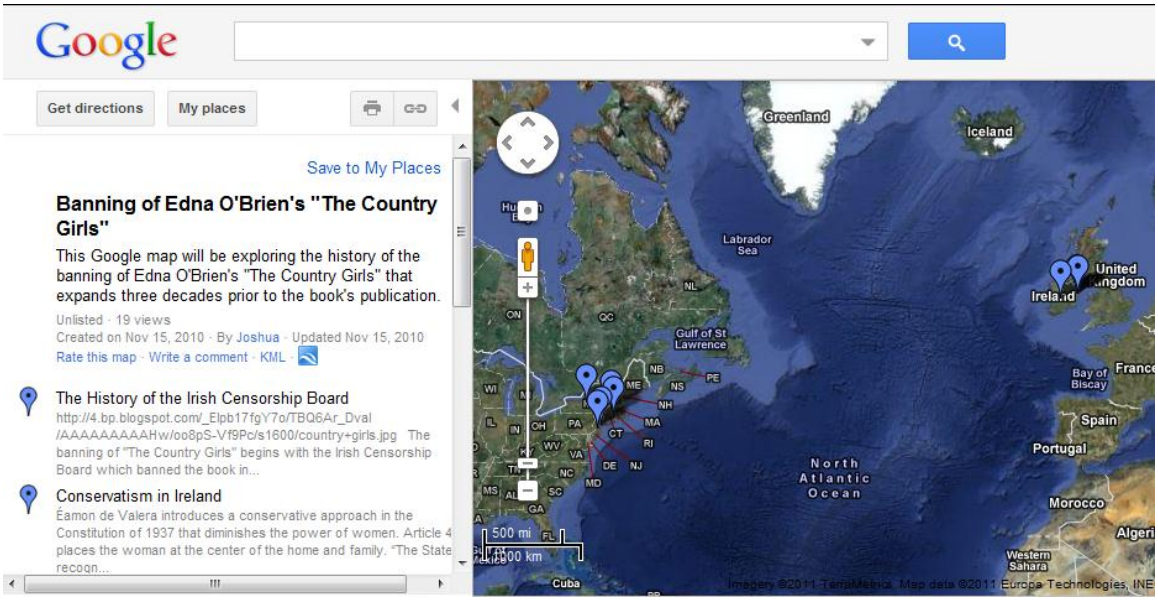

Fig. 5.1. Screenshot of the *Country Girls* censorship history *Google Map*.

The students who made this map also focused on criticism of how sexuality was portrayed in the novel, as well as on debates over O'Brien's authenticity as an Irish writer, rather than focusing only on instances of censorship. Similarly, the only map I was not able to view, *Bastard out of Carolina*, also varied slightly from the censorship history model. As Samantha explained in her reflection, it included honors that the novel received in addition to instances of censorship or criticism.

In general, the maps all fulfilled their purpose of conveying the censorship in history of the novels. The conclusion statements included in the maps also provide interesting insights that illustrate students' ability to make connections between the censorship history and the social, cultural, or historical context of the novel. For example, the conclusion from the *Country Girls* map explains that: "In essence, O'Brien's "The Country Girls" was banned not only because it challenged the social norms of Ireland by working against the traditional role of women but also because her critics mislabeled it as purely sexual and claimed she had no place to connect her works to Ireland when she had not lived there for several years." The *Lolita* map's conclusion was not worded quite as clearly, but the authors of that map were able to connect *Lolita*'s reception to the cultural moment of the United States in the 1950s: "Lolita seemed to be picked up by a publisher at the right time: America was being introduced to sex and other provocative themes." By looking at the maps alone, it is clear that this assignment was successful in getting students to learn about the censorship history of the novels, carry out research, and connect the map to the class's larger discussion of the novels.

The major findings of the analysis of the assignment, instructor reflection, and student work are as follows:

- Samantha's description of the purposes for the assignment in her reflection and the requirements for the assignment corroborate each other. The major goals of the assignment were to help students understand the censorship history and cultural context of the novels by mapping that history and considering it from a geographic perspective.
- The maps produced by the students are successful representations of the censorship history and include analysis of the cultural significance of the novels.
- Samantha's purpose for the assignment was partially play-related; she thought the maps might be a "fun novelty."

Triangulation of the results of the document analysis show that there are no inconsistencies in terms of the goals of the assignments when comparing the assignment itself, the instructor's reflection, and the students' work.

SURVEY RESULTS

The survey results will be reported in the same manner as they were for the mind maps case in Chapter 2. First I will discuss the major patterns that came out of coding the written responses to the qualitative questions. Then I will explain the results for the quantitative questions and note any similarities and differences between results for the paired quantitative and qualitative questions. Before I discuss the results of the survey, it

is important to note that my dataset is again very small; 11 students responded to the survey. However, when considering the written responses, it should also be noted that of the 11 respondents, 2 students gave no responses to the qualitative questions. In other words, they declined to explain their answers to the quantitative questions, and it is reasonable to assume that these students felt that their quantitative responses are representative of their experience. In addition, all of the students' written responses have been minimally edited for clarity.

Qualitative Results

The initial coding of the written responses produced 21 codes, which were condensed down to 5 codes: goals, visual, play, technical/easy, and unnecessary. These 5 codes represent the major patterns in the written responses. The students produced 45 written responses, all of which could be categorized into one of the patterns, and most fell into 2 or more patterns. These results are very similar to the patterns found in the mind maps data, Table 5.1 summarizes the patterns, giving their frequency within the dataset, how many surveys they appeared in, any major sub-codes, and a brief description.

Table 5.1. Patterns in students' qualitative responses about using *Google Maps*

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Goals	36/7	History, comprehension, analysis, criticism, invention	Responses that provide specific details about how the *Google Maps* supported one of the learning goals outlined by the course or instructor.

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Visual	21/8	See, visualize, show, interactive, experiential	Responses that discuss the visual or geographic representation of information in the maps.
Play	18/9	Fun, creative, interesting, unique	Responses that describe the experience using terms associated with play.
Technical/ Easy	14/7	Easy, difficult, frustrating,	Responses that explain that using *Google Maps* was easy after an initial period of technical problems.
Unnecessary	5/2	Irrelevant, repetitive, excessive	Responses that indicate that the maps seemed unnecessary or were used too frequently.

*The first number indicates the number of times this pattern appeared in the entire data set; the second number indicates the number of surveys the pattern appeared in out of 9 total surveys.

Goals. Goals, the pattern used to label references to how the maps were useful, was again the most common pattern in the written responses. Within the goals pattern the topics that came up repeatedly were history (learning about the censorship history or historical context), comprehension (understanding the context of the novel or cultural responses), analysis (making connections between context and the novel), and invention

(helping students to see new perspectives or connections). Not surprisingly, many students discussed how the maps illustrated the novel's historical context and banning history in particular. One student explained, "I think using the Google map is a fun way to illustrate a timeline of the history of the novel and helps the student to captivate what time period the novel was written in and how this affects the novel's censorship." Here, it is interesting that the student describes the map as capturing the time period. It seems that the combination of geographic and chronological information created a somewhat experiential scenario for some of the students. Another student explains a similar experience, describing the map as "interactive": "When using the maps, I think they let you think through all the possible options of why the book was banned or not banned. It offered a more interactive way of showing a novel's censorship." This response also characterized the map as a thinking tool that can be used for analysis and invention, allowing the student to "think through" the different connections represented by the maps. In addition, many students discussed getting general contextual background information about the novels from the maps as well. These students explained that the maps simply helped them to comprehend the context and its significance, "As far as the work and how it related to the class, I believe it just added to the experience and informed our understanding of the context of the novels." Another student explained, "I think it's a great thing to have background information on the novel/author. It's also nice to know where the novel/author was published/came from and how that affects the history of the censorship."

Students also felt that the maps helped them to understand the major criticisms or perspectives on the novel. One student explained that, "Over all the use of Google Maps gives a good background to content and the dialogue about the novels we looked at." Another describes how it helped them to understand the "cultural responses" to the novels: "Overall the Google Maps helped clarify different cultural responses and discourse in an interesting and structured way that allowed us to see the location and other media related to particular points of the cultural responses." For this student, the maps illustrated the relationships between location and response. Finally, the maps functioned as an invention tool by allowing students to "see" the novels in a different way (this will be discussed further in the visual section), or as one student explained, "Viewing Google Maps on censorship history was always insightful, and provided new perspectives on the novels."

Based on these comments, it seems that the *Google Map* assignment fulfilled all of Samantha's goals. It taught the students about the novels' censorship histories, about the criticism of the novels, and about the relationship of that criticism to the cultural context. It also functioned as an invention tool, helping students to gain a perspective they might not otherwise have had. This student's response sums up the relevance of the maps to the course: "I think the Google map is a positive experience. Not only did our Google Maps in this class entail necessary research for our presentation, it basically summed up the class's name, Banned Books. We learned why the novels are banned, in what cities/states/countries, and how the culture differs today than it did in the past, and how this affects censorship."

Visual. Written responses that discussed the visual dimension, what the maps showed, illustrated, or helped students to "see" or "visualize," were labeled "visual." The visual aspects of the *Google Maps* played an important role in why they were so useful to the students. It seems that the combination of geographic information with other types of contextual information aided comprehension and analysis. As one student explains, "*Google Maps* help you to visualize where the books were/are banned, while giving you critical information about the time period." Another student seemed to find that the visual representation of the contextual and historical information organized that information in a more easily understandable format: "ultimately I like how it organizes thoughts and connects them to places that a reader can easily visually understand."

In addition, the geographic representation allowed students to gain a new perspective, and engage in a new form of geographic literary analysis; this aspect of the visual pattern is also an example of how the maps were used for invention. As one student explained, "The map made me realize the worldwide impact of the novel on a visual scale—how close things were, and how far the spread of it was." The geographic representation illustrated this idea of the "worldwide impact" of a novel, which would likely have been overlooked without the map. As another student explained, "It was a unique way of outlining the book's censorship. When using the map, it lets you visualize how big of an impact the book had, or how little information about the censorship there actually is." Here it seems that the maps illustrated how active the censorship history was as well as where people were concerned about the book and why.

In addition, the maps provided a different way of experiencing this type of information, and several students commented on the interactive, intuitive, and experiential nature of the maps. For one student, "It presented the information in a more visual and intuitive way to get the facts and points across in a different manner (as opposed to PowerPoint, which gets pretty bland sometimes)." Another explained that, "I think the Google Map was a good way to view information—reading a paper would have been less interesting since you lose the visual element of the map." Another student described using the map as interactive or experiential: "It's very interactive and helps the students to visualize, maybe to step back into that culture and understand different time periods in which the books were banned." And some students mentioned that the visual presentation was a better fit for their learning style. For example, one student said, "Being a hands-on type of learner, I think the Google map helped me to stay focused while learning about the censorship history." And another explained, "I'm a more visual learner, so using the maps really helped show me how and why people had certain responses to books."

Play. Responses that used a play-related term to describe the experience of using *Google Maps* were categorized as "play." Although play was not the most common pattern in the written responses, all of the students used at least one play-related term to describe their experience of using the *Google Maps*. However, as with the mind maps case, the most common term used was "interesting." For example one student explained that "They were interesting because it was a new thing and way in which to look at information." Several students explained that the assignment was interesting because of

what they discovered about the novels while doing research for the maps: “It wasn't so much as fun as it was interesting to dig in to the research to uncover the novels past censorship or history in general.” Another student described the assignment as an interesting challenge: “The experience was interesting for me because the information I needed for the presentation on the book's censorship history was not readily available so I had to find other ways of incorporating ideas about how the novel was received by the public.” These types of responses, which were all categorized as both goals and play, are further evidence of the students’ strong association of this assignment with its learning outcomes.

Other students were more straight-forward about their enjoyment of the assignment. One said, “The Google Maps were my favorite part of the group presentations, so I really enjoyed them.” Another student explained that the maps were, “a fun way to illustrate a timeline of the history of the novel,” and another said, “it was unique and at least slightly enjoyable.” In addition, as with the mind maps case, much of the discussion of the maps as enjoyable or playful was tied to their visual nature, and 8 of the 18 responses that fell into the play pattern simultaneously discussed the visual aspects of the tool. These responses explained that the maps were “fun” because they “illustrate” the censorship history; they were “interesting” because they allowed the students to “view” the information.

Technical-Easy. The student’s discussion of the learning curve for *Google Maps* is represented by the pattern “Technical-Easy” because over and over students first discussed a period of initial frustration with technical problems followed by gaining

confidence with the tool. For example, one student says, "The Google map itself wasn't very user-friendly but once you got the hang of it, it was easier to create the map." And another, "Creating the Google map was confusing at first because I had never created one before, but it is easy to understand once you have started." However, at least one student had technical problems throughout their experience, "It was a little tricky at first and the program didn't do exactly what I wanted it to do at times." Overall, however, it is clear that students did not have significant problems using *Google Maps*.

Unnecessary. There were two students who, while they seemed to appreciate some aspects of the *Google Maps*, felt they were not always necessary or relevant. As one explained, "The Google Maps were a new way to research and display research but doing one for every new material we covered wasn't always the best choice because a Google map was not needed for certain parts of the course." In this case, the student seems to have had a Google Map overload with two maps per novel (including the ones created by the instructor) and found some of the maps to be unnecessary. Another student explained that mapping is relevant only to certain types of novels or concepts: "They were interesting because it was a new thing and way in which to look at information, but it cannot be used for all types of research." Here the student describes a basic limitation of mapping as a form of literary analysis—some novels simply don't lend themselves to geographic representation, and it seems that some of the maps did not reveal anything of significance about the novels for this student.

However, both of these students also made strong statements about the usefulness of the map often in the same sentence that they criticized them. For example, one said,

"A novel's censorship history was necessary information for this course and a Google Map was a good way to present it as opposed to reading a paper out loud, but I'd prefer to do the research for each book on my own." This student's problem seems to be an issue of preference, possibly for individual over collaborative work. But this response is also similar to one of Sells' findings. Sells, whose report on her use of *Google Earth* in a literature course was reviewed in Chapter 2, explained that many of her students who were English majors commented that they would rather have written an essay than make a map (30). Another student explained, "The Google map best represented censorship history and how many people viewed the novel but that was mostly all the Google map accomplished." This response is slightly comical because what the student pities as "all the Google map accomplished" is exactly what the instructor hoped it would, but maybe this student's point is that the maps were not worth the effort. Despite the inconsistencies in their responses, these 2 students' criticisms of the assignment are noteworthy in a dataset of 11.

Quantitative Results

I will follow the same organization used in Chapter 4 to explain the quantitative results, first discussing the results for a quantitative question and then comparing them to the patterns that appeared in the responses to the paired qualitative version of that question, noting consistencies and discrepancies between the two forms of data. The results have also been organized into sections based on my research questions, and each section discusses the survey questions that were designed to help answer a particular

research question. Again, it is important to remember as I discuss percentages and averages in this section that there were only 11 respondents to this survey.

The Experience

The first few survey questions were designed to elicit responses to my first research question that asked what the students' experience of using the *Google Maps* was like. For the *Google Maps* assignment, the students had varying levels of engagement with the maps depending how their group divided up the responsibilities for their presentation. Because the experience of a person who had created the map versus a person who had only viewed a map would likely be very different, the first question asked students how they had contributed to the map. The responses show that 3 of the students created the maps, with 2 of these creators also doing research for the map; 4 contributed ideas for the map; 2 had no role in creating the map; 1 contributed research; and 1 reviewed the map.

Because of these different levels of engagement with the maps, I used two different questions to analyze the students' experiences of the maps. For students who worked directly with the map creating it, doing research for it, or offering ideas and feedback for it, the question read: "Which options best represent your experience of creating the *Google Maps*. Choose all that apply. If you did not create the map, move on to question 5." For students who only viewed or used the maps during the in-class presentations, the question read: "Which options best represent your experience of viewing and/or using the *Google Maps*. Choose all that apply." Students used a 5-point

Likert-type scale ranging from 1 to 5 (strongly disagree/strongly agree) to rate the following descriptors: fun, interesting, creative, easy, boring, frustrating, confusing, and difficult. Figure 5.3 shows the results for both questions in means and standard deviations compared side-by-side.

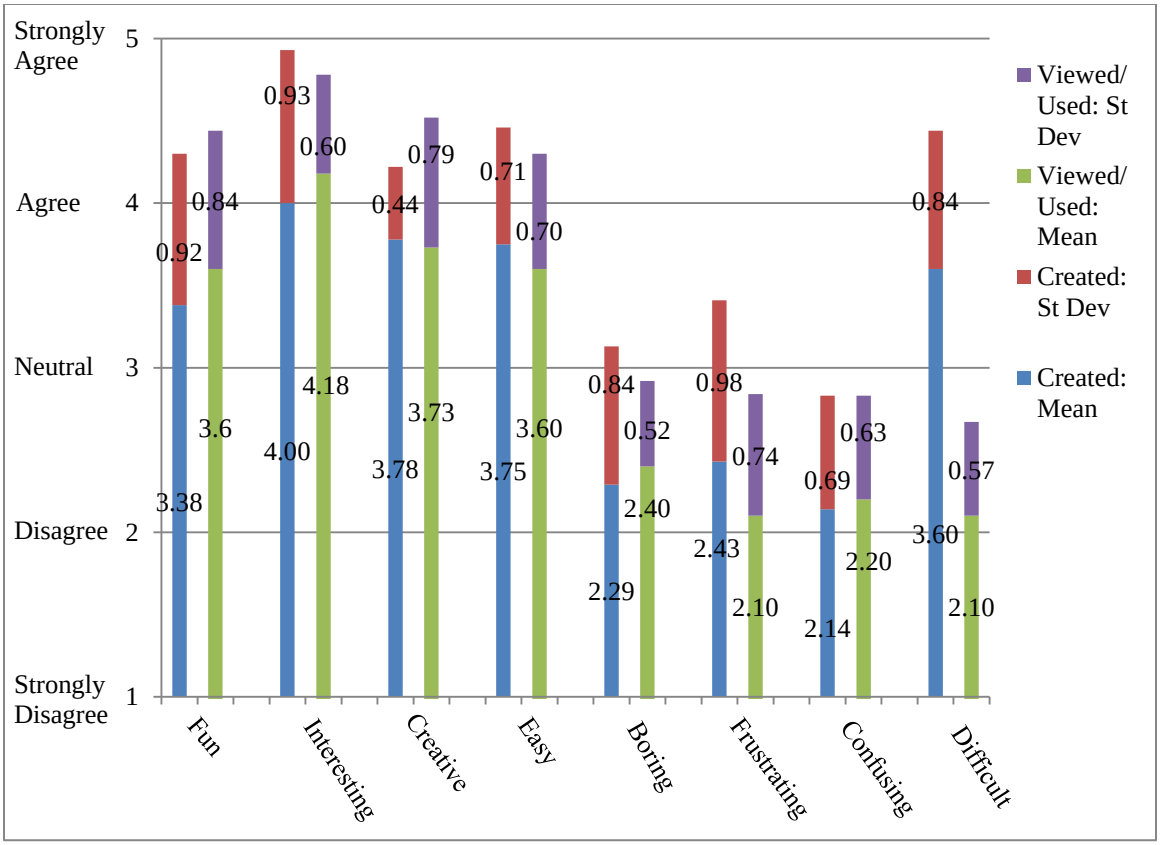

Fig. 5.3. Compared results of both experience questions in means and standard deviations.

The results for both questions are similar for all of the positive descriptors. Students generally agreed that the experience was interesting, creative, and easy, and their responses were a bit lower, between neutral and agree for the descriptor fun.

Looking at the negative descriptors, the results are again quite similar for boring and confusing; students generally disagreed with both of those descriptors. While students who used the maps disagreed that the experience was frustrating, the responses from the students who created the maps are a bit higher at 2.4, between neutral and disagree. Finally, the greatest discrepancy is for the difficult descriptor. There, students who created the maps mean response was 3.6, between neutral and agree. Students who used the maps on average did not find the experience difficult. The detailed results for this question, in percentages, are shown in Figures 5.4 and 5.5.

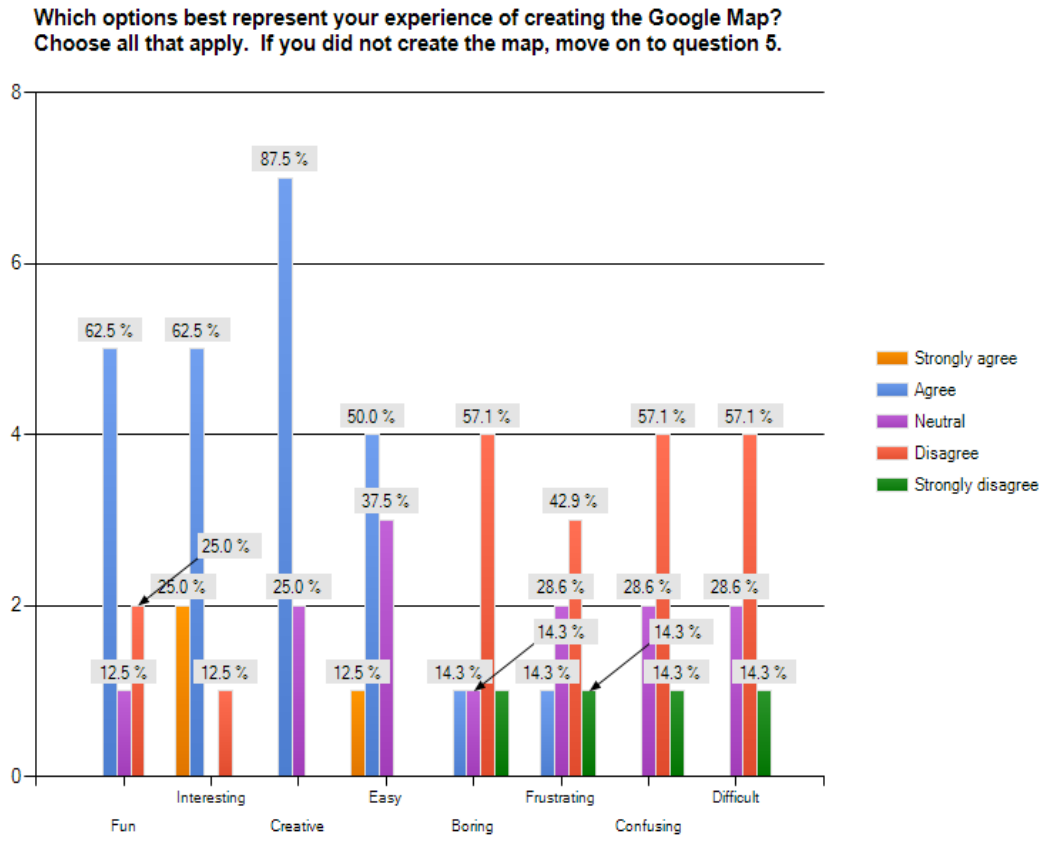

Fig. 5.4. Detailed responses to the experience question about the experience of creating the maps.

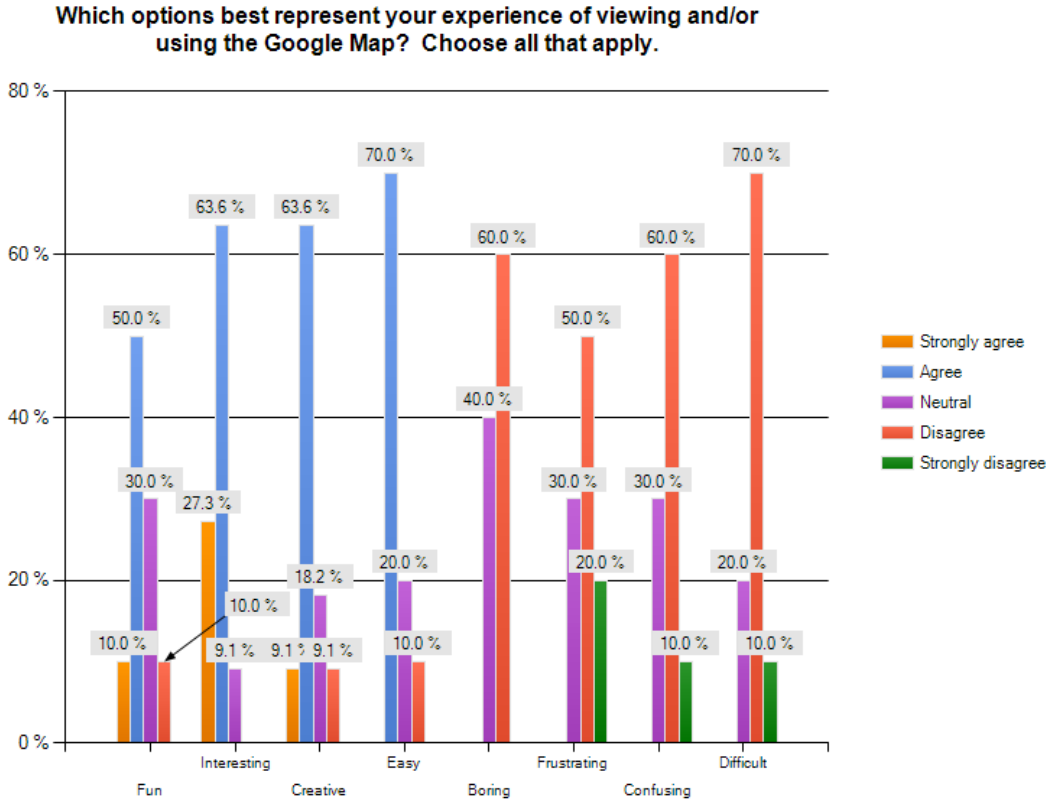

Fig. 5.5. Detailed results of the experience question about using and viewing the maps in percentages.

Students were asked to explain their answers after both of these questions and these written responses are largely consistent with the quantitative results. Not surprisingly, there is a much higher instance (6 of 8 responses) of the technical/easy pattern in the written responses for the question about creating the map because students who actually created a Google Map would run into more technical problems than those who only viewed one. Half (4 of 8) of the written responses about creating the maps also referenced the play, visual, and goals patterns. For example one student said, "It is a little tricky to navigate making the Google map, but ultimately I like how it organizes thoughts

and connects them to places that a reader can easily visually understand." This response is a good representation of the focus on technical issues as well as the usefulness and benefits of the visual characteristics of the tool. The written responses to the question about viewing or using the maps were also consistent with the quantitative results. The most frequent patterns were play and goals (7 of 9 responses), and in general, students explained that they found the experience of using or viewing the maps both useful and interesting, or, as this student explained, "It was a unique way of outlining the book's censorship."

Although the written responses are largely consistent with the quantitative results for both questions, students discussed how they *used* the maps, relating them to the goals of the course, rather than strictly discussing what it was *like* to use the maps. Similar results were found in the mind maps case, and again these responses suggest that students did not differentiate between the experience of using the maps and the pedagogical purpose of the maps, or that they viewed the utility of the maps as integral to the experience of using them.

Relevance to Learning Goals

Getting students to discuss the pedagogical utility of the maps was the purpose of the next few survey questions. They aimed to determine how useful the maps were in terms of the goals of the course and assignment, as well as other uses the students might have found for the maps. The first of these questions was very direct: "To what extent did the maps aid you in acquiring the following skills?" Students rated the following

options on the same Likert-type scale: “I gained research skills,” “It improved my understanding of how to do a cultural analysis,” “It helped me develop ideas for analysis of the novel for a paper,” “It improved my understanding of the novel’s cultural significance,” and “It improved my understanding of the novel’s censorship history.” Figure 5.6 shows the results of this question.

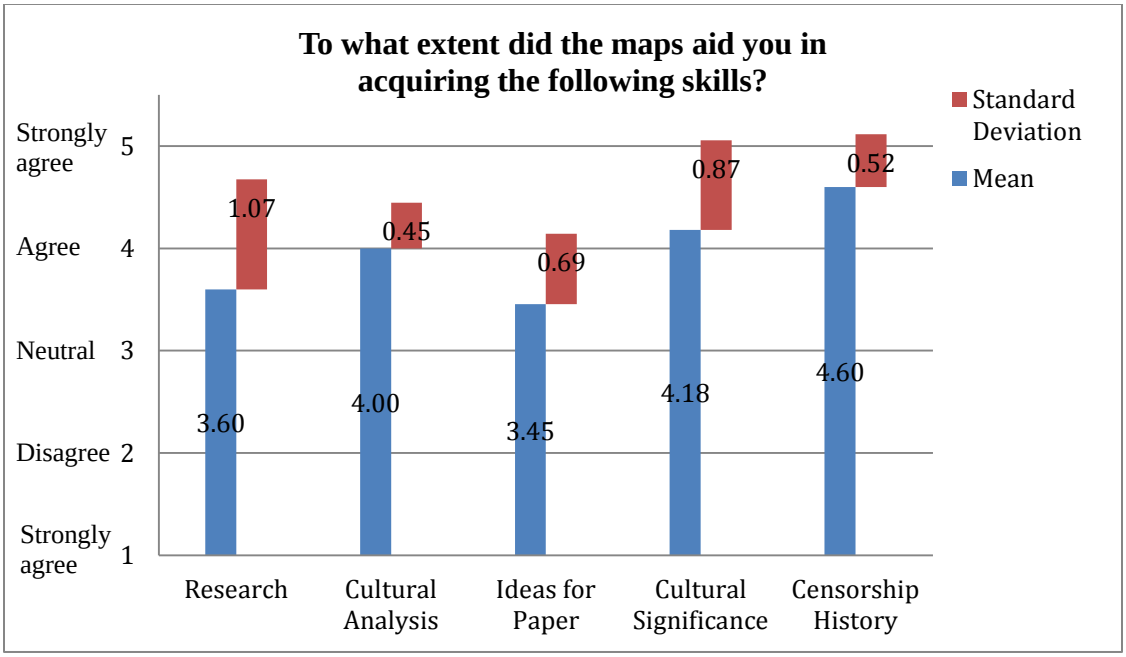

Fig. 5.6. Responses about the relevance of the maps to course’s goals in means and standard deviations.

As the chart illustrates, on average the students agreed that the maps helped them to understand cultural analysis, the cultural significance of the novel, and its censorship history. The average response falls between neutral and agree on whether the maps helped them with their research skills or gave them ideas for a paper, and the standard deviation for the research option is high at 1.07, indicating that there was little consensus amongst the responses. Students were not asked to explain their answer to this question,

but they were offered the option of adding their own response. Only one student used this option and explained that the research for the map, not the map itself, had taught them about the novel's censorship history: "I didn't have to learn about the novel's censorship history another way, so the research improved my knowledge, not the map itself." Based on these responses it seems that this assignment was quite successful for both the course's general goals of teaching literary analysis, specifically cultural analysis, as well as Samantha's specific goal of giving the students background information on the novel's censorship histories and cultural context. The detailed results for this question are shown in Figure 5.7 below.

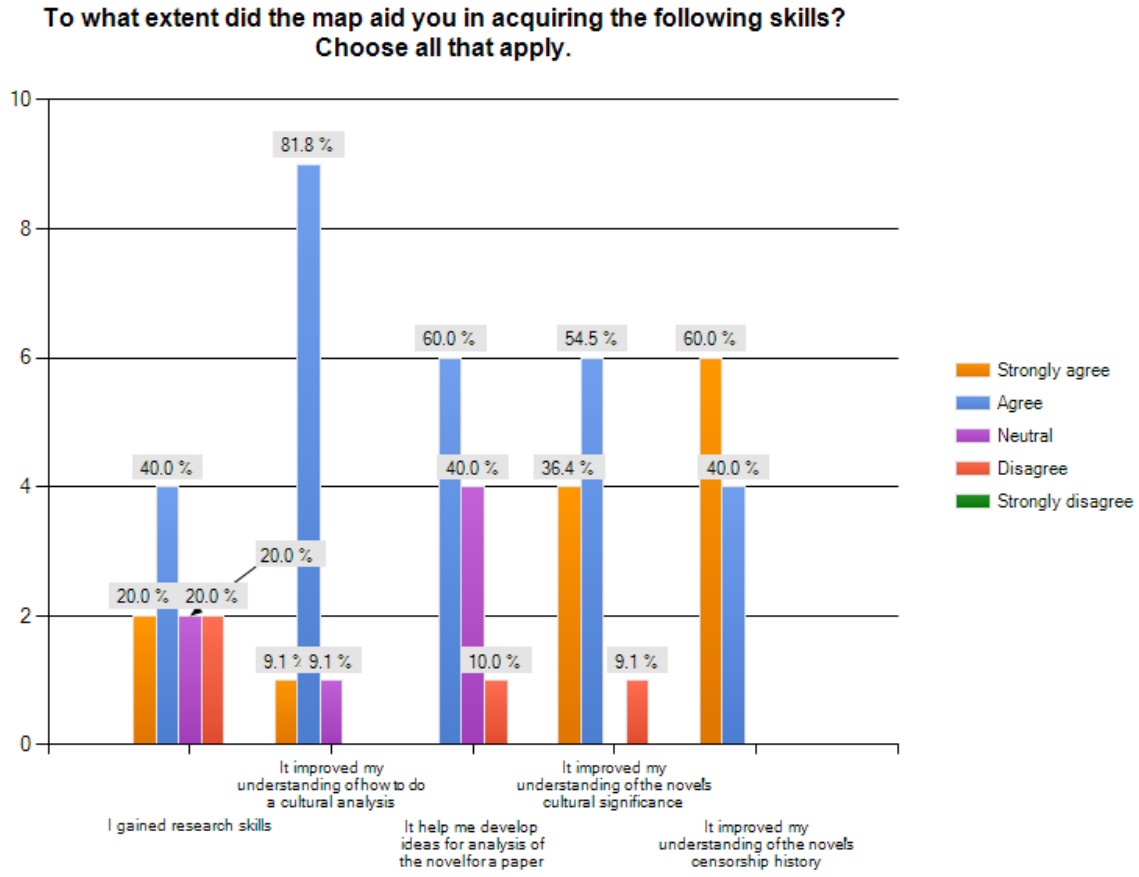

Fig. 5.7. Detailed results of the skills question in percentages.

The next survey question was designed to obtain more information about how the students found the maps useful. It asked, "Which options describe what you liked best about the Google Map, if anything? Choose all that apply." The students used the same Likert-type scale to rate the following options: "It provided a visual representation of the censorship history of the novels," "It helped me to understand responses to the novels." "If offered a unique way to think about the novel," and "It helped me generate ideas for my papers." The results for this question are shown in Figure 5.8 in means and standard deviations.

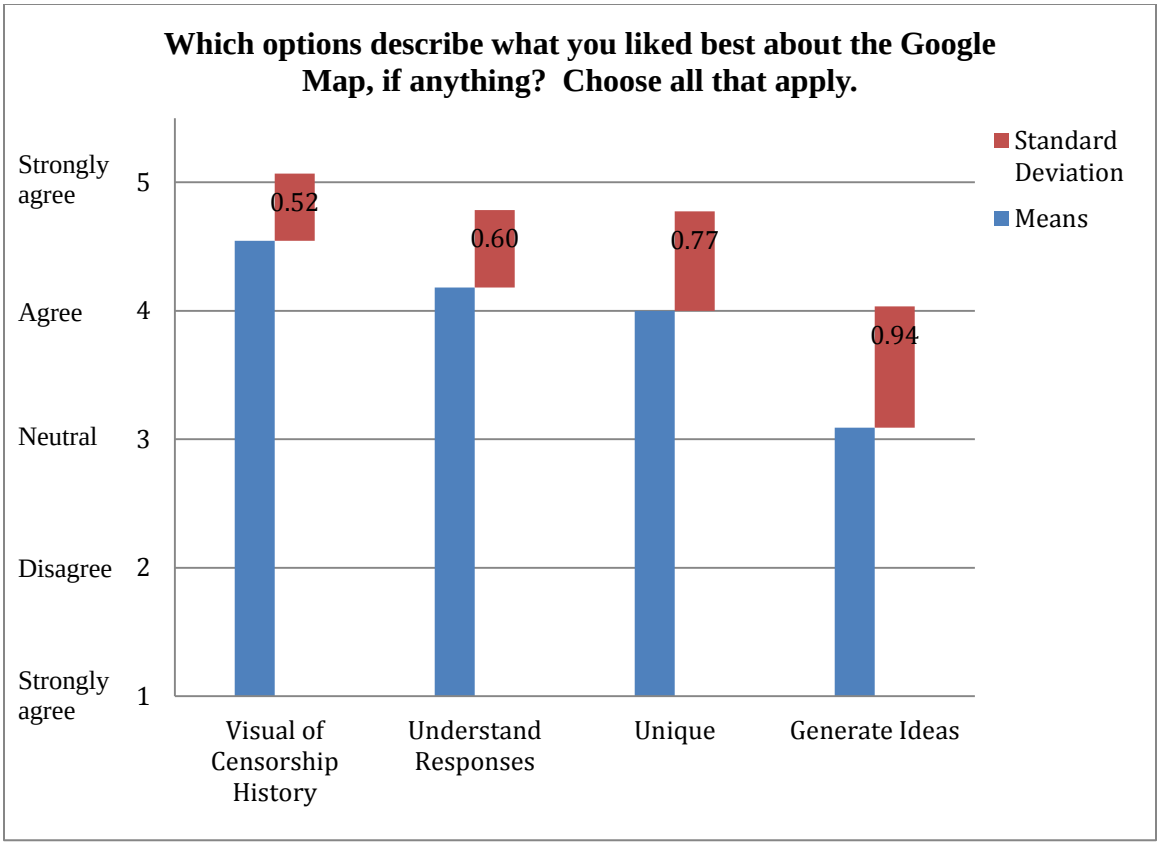

Fig. 5.8. Results of positive factors question in means and standard deviations.

On average the students agreed that they liked the visual representation of the censorship history that the maps provided, that it helped them understand the cultural responses to the novels, and that the map provided a unique perspective on the novels. Similar to the previous question about how the maps were used, students were more ambivalent about characterizing the maps as an invention tool for their papers, with the average answer at close to 3, or "neutral." The detailed results for this question are shown in Figure 5.9 below.

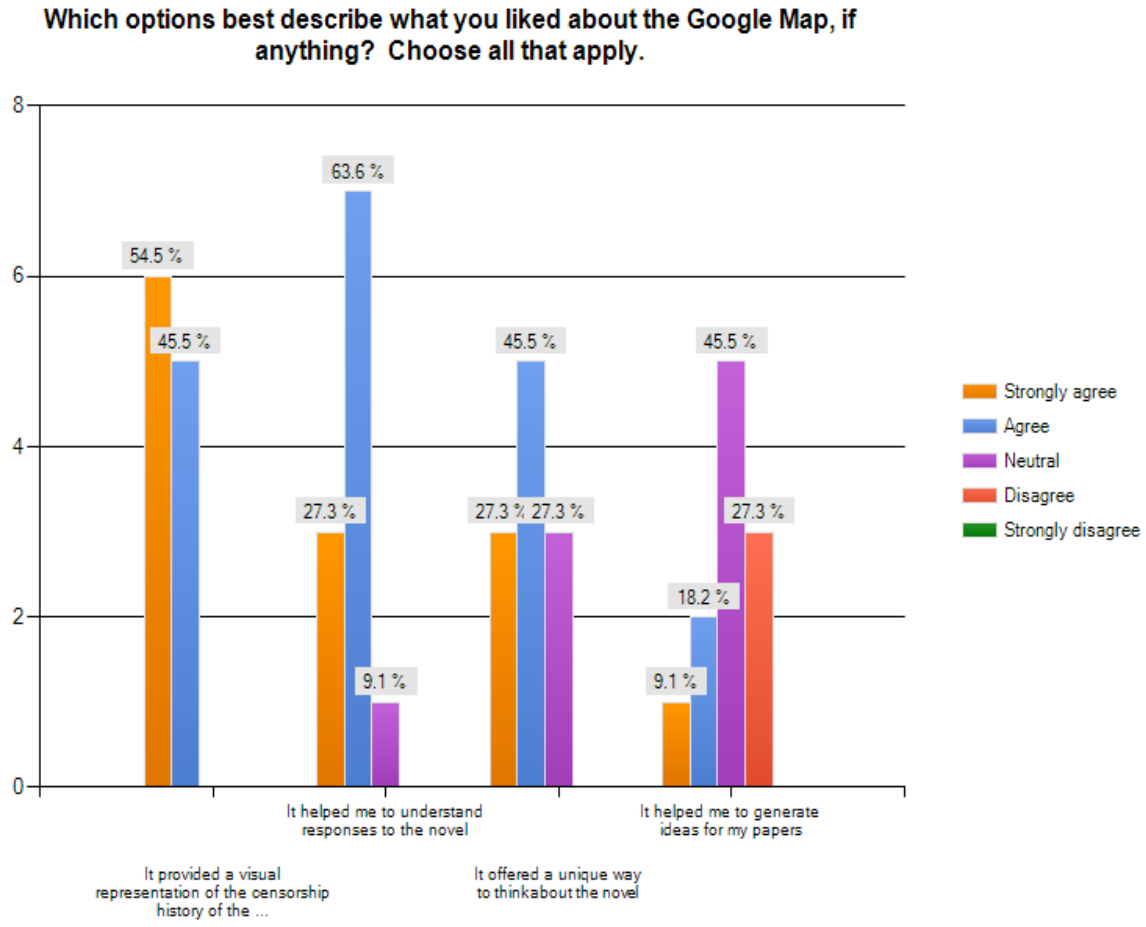

Fig. 5.9. Detailed results for the utility question in percentages.

When asked to explain their answers, the majority of the responses (5 of 7) fell into the goals and/or visual patterns, with 1 response relating to the play pattern and 1 to the unnecessary pattern. With the exception of that "unnecessary" response, the students' comments are uniformly positive; for example, one student said, "Google Maps help you to visualize where the books were/are banned, while giving you critical information about the time period." This response illustrates the connection between the usefulness of the

maps and their visual characteristics that was so common amongst these written responses.

The next question asked students what they disliked about using the *Google Maps* in order to offer them an opportunity to explore and explain some of the possible downsides of their experience. This question asked, "Which options best describe what you disliked about the *Google Maps*, if anything? Choose all that apply." They rated the following options on the Likert-type scale: "It added seemingly unnecessary work," "I didn't understand how it connected to the rest of the course," "*Google Maps* was difficult to use," and "It presented an overwhelming amount of information about the novel." Figure 5.10 illustrates the results for this question in means and standard variations.

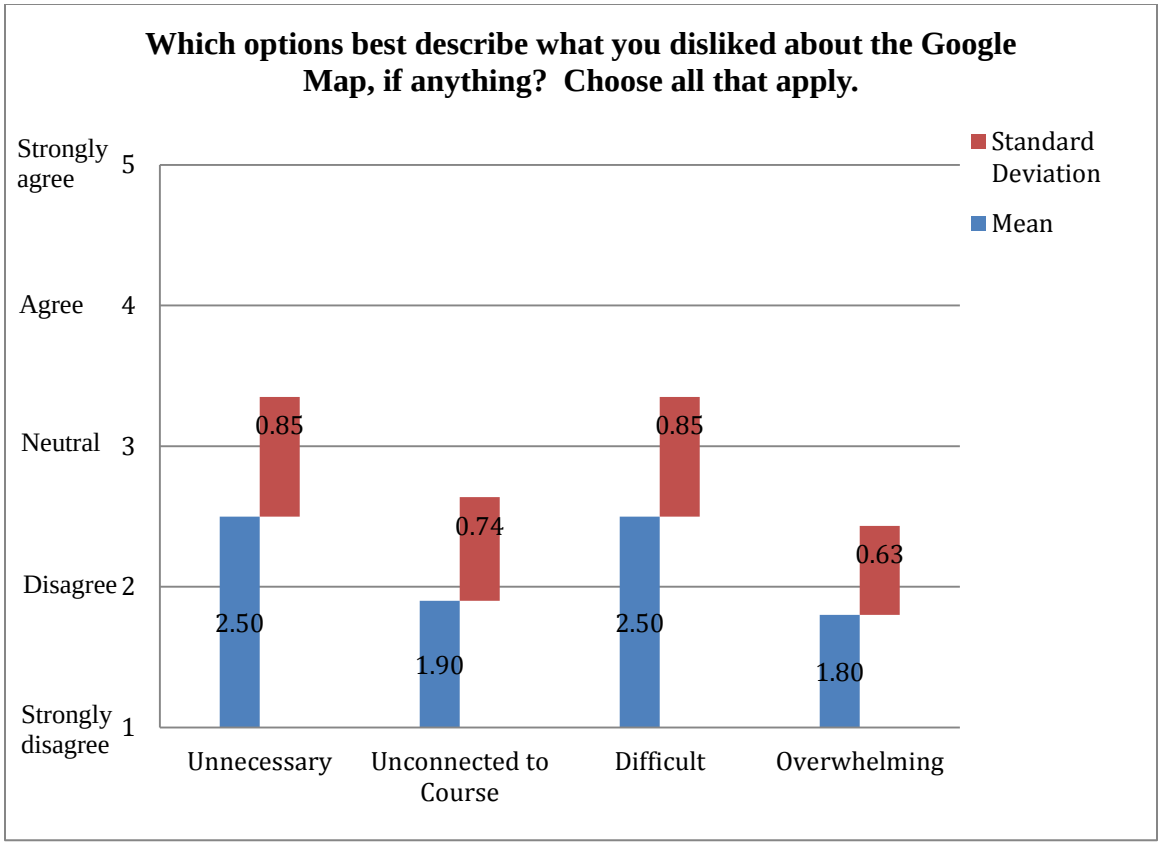

Fig. 5.10. Responses to the negative factors question in means and standard variations.

As the chart shows, the students disagreed or strongly disagreed that the *Google Maps* assignment was unconnected to the rest of the course or that it presented an overwhelming amount of information. However, students were more ambivalent about whether or not the assignment was unnecessary or difficult, with the average response for both of these options falling between "disagree" and "neutral" at a 2.5. When asked to explain their answers, only 5 of the students provided written responses and no clear trends appeared amongst the responses. For example one student explained that the maps were useful, but that they would have preferred to research all of the novels on their own. Another commented that, "Sometimes it was difficult to absorb all of the information the

Google Maps presented." And at the other end of the spectrum, one student explained, "I highly disagree with all of these statements. I think using the Google map is a fun way to illustrate a timeline of the history of the novel and helps the student to captivate what time period the novel was written in and how this affects the novel's censorship." The detailed results for this question are shown in Figure 5.11 below.

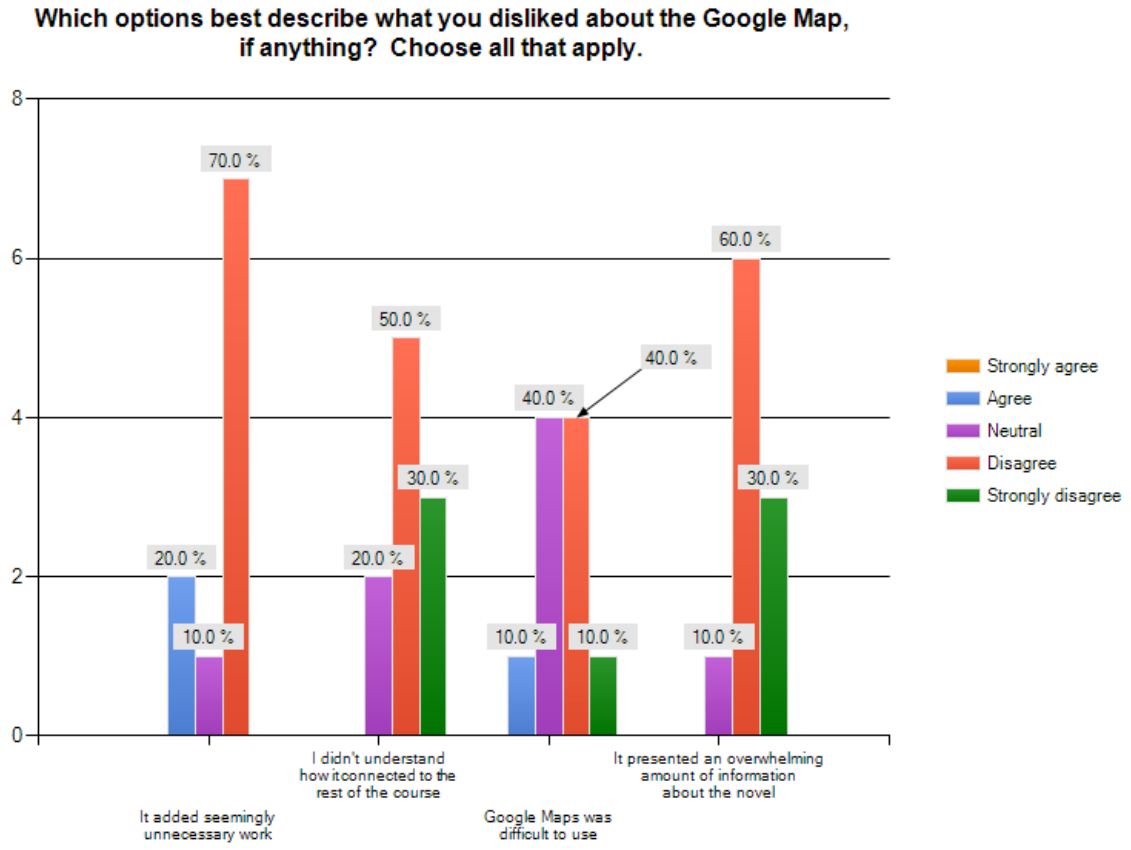

Fig. 5.11. Detailed results of the negative factors question in percentages.

The Visual Components

The next survey question was meant to determine the role that the visual nature of *Google Maps* had in the student's experience. The question asked, "What affect do you think the visual nature of the *Google Maps* had, if any? Choose all that apply." The options, which the students rated on the same Likert-type scale, were worded similarly to the question that asked about the students' overall experience at the beginning of the survey: "The visual representation made learning about the cultural responses more fun," "The visual representation made the assignment a creative experience," "It was interesting to consider the novel visually," and so on with easy, frustrating, confusing, and difficult. "Boring" was omitted and replaced by "It had no effect" because it seemed likely to more applicable to the students' experience of the visual aspects of the tool. The results for this question are shown below in Figure 5.12 in means and standard deviations.

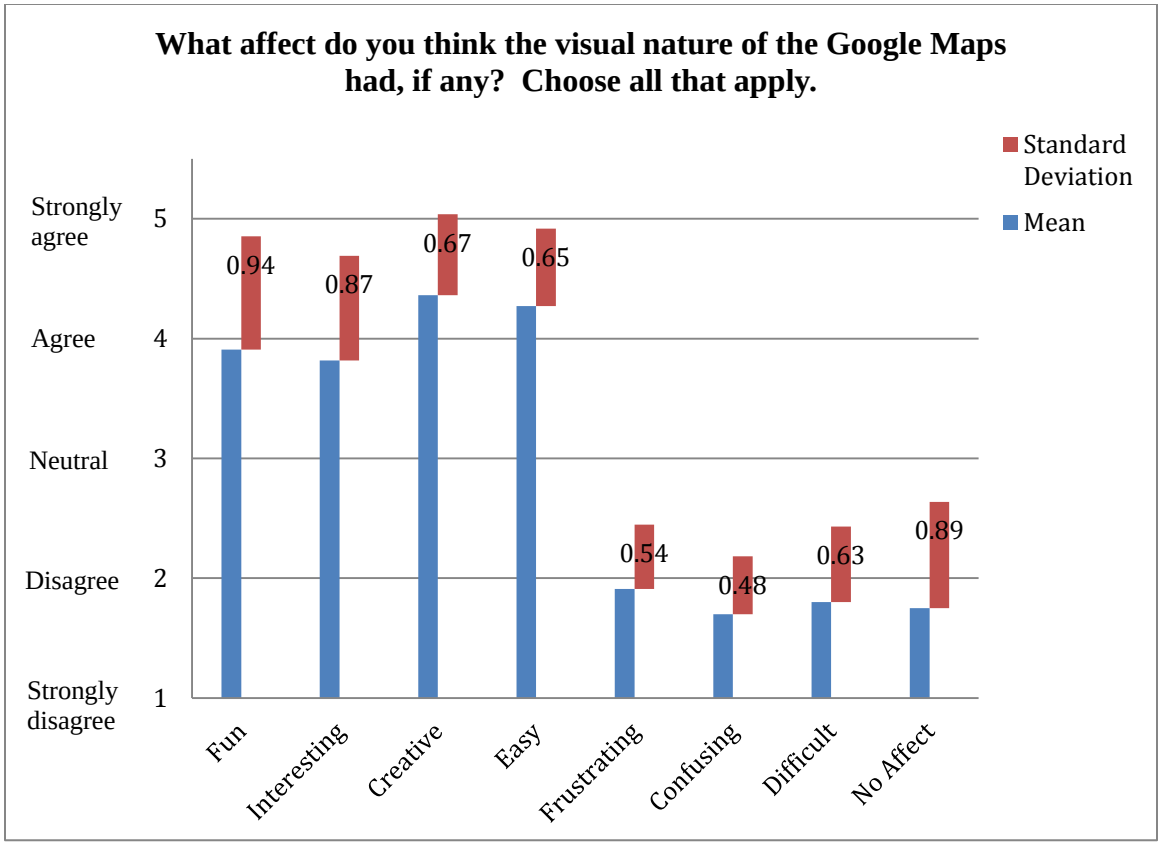

Fig. 5.12. Responses to the visual nature question in means and standard deviations.

The results here are in keeping with the rest of the dataset, with students on average agreeing that the visual nature of the maps made them fun, interesting, creative, and easy to use, and disagreeing or strongly disagreeing that it made them frustrating, confusing, or difficult to use or had no effect. However, the standard deviations are somewhat high for "fun," "interesting," and "no effect," indicating the wider range of responses for those options. The detailed results are shown below in Figure 5.13.

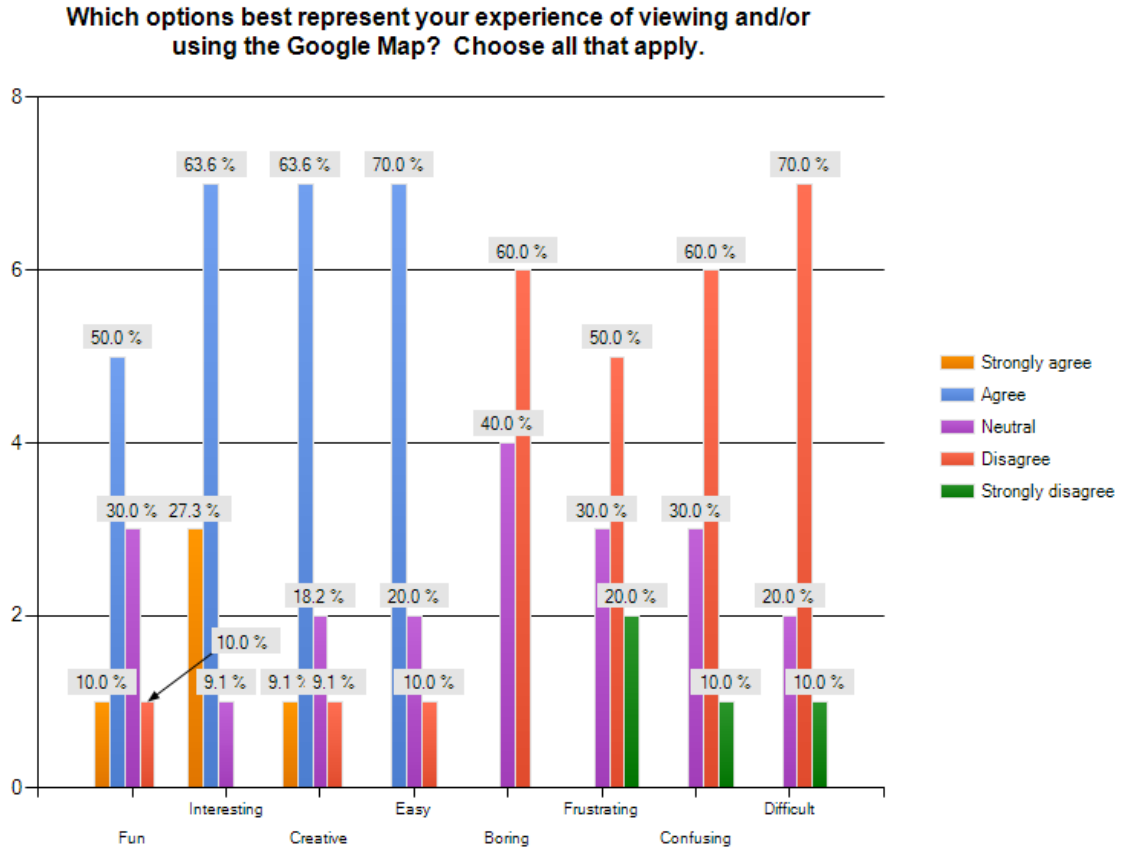

Fig. 5.13. Detailed results for the visual characteristics question in percentages.

When asked to explain their answer, only 6 of the students responded. However, all 6 responses are highly positive, and all of them fell into the visual (5), goals (6), and/or play (2) patterns, with 1 relating to the unnecessary pattern. In these responses there is again a strong connection between the visual nature of the maps and their utility as illustrated by this response: "Over all the *Google Maps* helped clarify different cultural responses and discourse in an interesting and structured way that allowed us to see the location and other media related to particular points of the cultural responses." It seems

the maps emphasized how different cultures (represented by the different geographical placemarks in the *Google Maps*) respond differently to a novel, and how where a novel is written or its author's nationality can have an impact on the cultural responses to it. Over and over, students explained that the maps helped clarify or "showed" them the relationship between location and response. Or, to use the words of another student, "using the maps really helped show me how and why people had certain responses to books."

Future Use and Overall Attitude

The last few questions of the survey were used to determine the students' overall impression of the *Google Maps* assignment as well as whether or not they intended to use the maps again on their own.[7] When asked whether they would create their own *Google Maps* again (as opposed to using it to get directions and so on), 3 said yes, 7 said possibly, and 1 said no. When asked what they would create a Google Map for, of the 10 students who responded, 10 said they would use *Google Maps* for other classes to organize spatial or geographic information, 6 said they would use them for personal purposes, and 1 said they would use them at work. When asked to explain their answer, only 6 students responded. However, of these 6, 3 described specific personal *Google Maps* projects that they had thought about or had already completed. For example, one student explained, "I've already made a Google map for a roadtrip I'd like to take this summer with my friends."

[7] As discussed in Chapter 3, repeated voluntary engagement in an activity is an important indicator of whether or not a person has found the activity to be a playful experience (Brown, Czikszentmihalyi).

The final question asked students to "Choose the option that best describes your attitude towards using *Google Maps* during this course." Students were offered a 5-point Likert-type scale from 1-5 (Very Negative/Very Positive). The results for this question are shown in Figure 5.14 below.

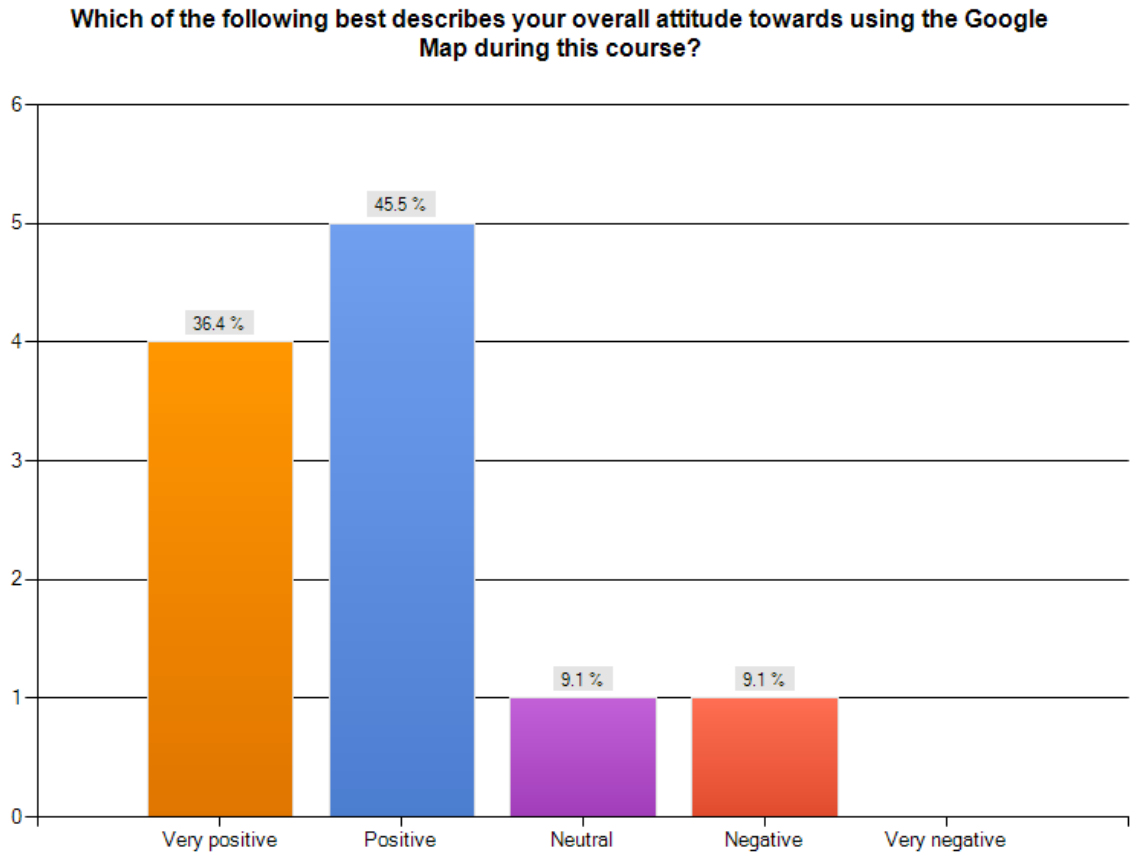

Fig. 5.14. Results of attitude question in percentages.

When asked to explain their answer, 7 students responded. Of these, 2 explained that the maps were useful, but that they felt their time could have been better spent elsewhere. The other 5 responses, in contrast, are highly positive, explaining that, "I

liked it! It was a little tricky to figure out at first, but I eventually got everything organized and then it was easy to create" and "The *Google Maps* were my favorite part of the group presentations, so I really enjoyed them."

The following points summarize the results of the survey:

- Although students seem to have generally liked the assignment, most play-related responses described the assignment as "interesting," and did not use descriptors more strongly associated with play, such as fun or enjoy.
- Students found the *Google Maps* assignment useful for Samantha's purposes of learning about the banning histories of the novels and understanding the cultural criticism and context of the novels.
- Student both enjoyed the visual aspects of the maps and found them useful; some also described having a somewhat interactive or immersive experience.
- There was overall more emphasis on and description of the maps as useful or about what the students took away from the assignment.

All of these results are supported by both the qualitative and quantitative data. These results are also consistent with the analysis of the students' maps, which successfully mapped the banning history and offered some conclusions about the cultural significance of the novels. Comparing these results with Samantha's goals for the assignment also shows that her purposes for the assignment were largely successful.

IMPLICATIONS

The results for this case are similar to those for the mind maps case. It seems that students generally had a positive experience using *Google Maps*, but there are discrepancies between the quantitative and qualitative survey data on this point. In terms of the quantitative data, the majority (70-90%) of students found the experience to be both interesting and creative, and many of the students (60%) even went so far as to agree that the experience was fun. However, the analysis of the qualitative data shows that the play pattern appeared third most frequently, and within that pattern, the students most often described the experience as interesting, with a minority of three or four students describing the experience as fun, entertaining, or creative. It seems that while students generally enjoyed the assignment and found it interesting, they did not have a truly playful learning experience that would be characterized by creative innovation or experimentation, and intense focus or engagement with challenges as outlined in Figure 1.1.

The results for whether or not the assignment was useful in terms of the goals of the course are less ambiguous. The students' responses, and the maps themselves, indicate that the assignment was relevant to both the overall goals of the course and the instructor's goals for this specific assignment. The usefulness of the maps is confirmed by the high frequency of the goals pattern in the written responses (it was the most frequent pattern), as well as the quantitative results of the questions that asked students about the utility of the maps. Specifically, most students found the maps useful for

learning about the censorship history and the cultural context and significance of the novels.

As with the mind maps case, the visual nature of the *Google Maps* seems to be an important part of the both the student's enjoyment of the assignment and its success as a learning tool. The qualitative survey responses indicate that it allowed students to make connections between locations and contextual information that gave them a perspective on the novels that they would not have seen otherwise. Several of the students also found that the visual nature of the *Google Maps* created a somewhat immersive or interactive experience, explaining that the maps created an experiential way of learning about the censorship history and cultural context of the novels. These trends in the written responses are confirmed by the results of the quantitative question that asked students about how the visual aspects of the tool impacted their experience; here the results are very positive with the average response agreeing that the visual aspects made *Google Maps* fun, interesting, creative, and easy to use, and disagreeing that the experience was frustrating, confusing, difficult or that the visual aspects had no effect. Like the mind maps case, it seems that Gee's discussion of the importance of models in playful learning applies here. Much of the students' discussion of the effect of the visual components of the maps indicates that they functioned as simplified models of the novels that allowed them to focus on the censorship history and cultural context. However, these results are inconclusive since students were not asked directly about this issue, and further research on this specific aspect of the students' experience is necessary.

In conclusion, Samantha's comments in her reflection that the maps would be an interesting way to think about the novel and a "fun novelty" for the students were quite accurate. Although not a playful experience in the sense discussed in Chapter 1, the students seem to have enjoyed this assignment. And more than just a novelty, the maps taught the students about censorship histories and helped them to think critically about the novels' contexts, both appropriate learning outcomes for an introduction to literature course. The first two cases' results have been somewhat similar, and Chapters 6 and 7 will show whether these patterns continue as the technologies get increasingly interactive and immersive.

Chapter 6: Results and Implications for the *Google Earth* Case

"I think Google Earth is a very interesting and creative program that can be used in a variety of ways to learn about the campus, local [community], and other places all over the globe."

In this chapter, I report the results for the *Google Earth* case. As with Chapters 4 and 5, the discussion begins with a description of the instructor, his motives, a detailed explanation of the assignment, and the results of the analysis of the maps. Then the survey results will follow and their discussion will comprise the majority of the chapter.

THE INSTRUCTOR AND ASSIGNMENT

The *Google Earth* assignment was used in a sophomore rhetoric course, titled "The Rhetoric of Memory and Forgetting." This topic was chosen by the instructor, Martin, a pseudonym, but the overall goals of teaching rhetorical analysis and strategy, as well as building research and writing skills remained the same for all rhetoric courses at this level. Martin was an English doctoral student who had been teaching his own courses for three years. The assignment (see Appendix J), which Martin titled "Mapping and Critiquing Monuments," asked students to find a memorial, statue, or artwork on campus that they found interesting; photograph it; and do some research on the rationale for its location, who built it, who paid for it, and its significance. Students were then asked to write-up their research covering the significance of the statue and arguments both for and against its placement on campus.

After these assignments had been completed, students brought their photos and write-ups to class, where Martin explained how to upload photos and commentary into *Panoramio* and *Google Earth*. Students then uploaded the photo to *Panoramio*, a geolocation-oriented photo sharing website that allows users to layer their uploaded photos onto Google Maps and *Google Earth*. *Panoramio* also allows users to add commentary to their photographs, so that someone using *Google Earth* can click on a photograph and be taken to the *Panoramio* site, where commentary about the photograph and location can be added and responded to. Students placed their write-ups of their research on this site. The photos then underwent an approval process by the site administrator in order to appear in *Google Earth*, which, in some cases, took several days. After that process was completed, Martin set aside another class time for students to show each other their memorials and discuss some of the arguments surrounding the memorials. Students were also encouraged to participate in the public discussion of the memorials on *Panoramio*. As Martin explained in the assignment, "everyone who goes to UT's campus on *Google Earth* will be able to see what you've come up with. You'll not only educate yourself through the process, but you'll also educate those people visiting the *Google Earth* website! Who knows, what you write may even elicit a response from someone outside the university, but it's up to you whether or not to keep the conversation going."

In his reflection (see Appendix K), Martin explained that he had several goals for this assignment, some of which relate to the overall goals of the course and some that are more particular to Martin's interests and course design. First, this assignment functioned

as a research and summarization exercise, asking students to use research and writing strategies that they had been learning in the course to put together their comments about the memorials. In addition, the practice of acknowledging both sides, or covering "multiple standpoints," is a common practice in many rhetoric courses. The assignment also asked students to put their rhetorical analysis skills into practice by considering the rhetoric of the memorial. Specifically, Martin asked students to consider the accuracy and appropriateness of the representation.

Martin also envisioned this assignment as a way to get students to put the class's discussion of memory and forgetting into practice on memorials that students had direct experience with and, hopefully, some investment in, since they encountered these memorials on a daily basis as they moved through the campus. The discussion of the memorials on *Panoramio* also made this an experiential assignment on another level. The idea was to engage students in public discourse about the memorials so that they might be, "excited to participate in these digitally-facilitated discussions with persons outside the university."

Finally, Martin wanted to offer an opportunity to consider the benefits of forgetting. As he explained:

> by having students argue for why certain monuments or memorials should be forgotten (even if only hypothetically), the ethical importance of forgetting can be revealed—which is a crucial insight, especially considering how many people (students included) believe that forgetting is wholly dangerous and deleterious, rather than a potential force of affirmation and viable social transformation.

In requiring students to argue for the removal of their memorial, Martin hoped to prompt them to consider the value of forgetting.

STUDENT WORK

My commentary on the work produced by students for this assignment will focus on the posts they wrote to accompany their photos of the memorials, as well as their comments on each other's posts. I collected 13 posts and 16 comments on those posts. However the comments were very unevenly distributed: 3 posts received 1 comment each, 1 post received 2 comments, and 1 post received 13 comments. The other 8 posts received no comments. Although I cannot determine exactly who commented on the students' posts (it could have been any *Google Earth* user), it seems that most were made by Martin's students since Martin devoted a class period to discussion of and viewing the posts, and most of the comments to the students' posts were added on the day of that in-class activity. In addition, the tone of the comments and their fidelity to the topic of whether or not the memorial deserves its place on campus also seem to indicate that they were made by Martin's students. Thus, the idea of engaging the public in discussion of the memorials seems to have had little success. However, the assignment did garner some discussion between members of the class.

In terms of their content, the posts are for the most part highly informative and detailed, and they range from about 250 to 800 words, with the average post at 433 words. All of the posts covered basic information about the memorial such as its date of installation, information about the artist, how the decision to create the memorial came about, and, of course, any controversy surrounding the memorial. In the case of memorials that elicited little controversy, students were able to come up with at least one plausible argument for or against. And many students ended their posts with questions

inviting readers to respond and consider other interpretations or negative aspects of the memorial.

The students' work shows that the assignment was successful in getting students to research and summarize information and criticism of their chosen memorial. Their posts are for the most part clearly written and well-reasoned, even if the goal of engaging students in conversation with the larger public seems to have been unsuccessful. However one of the posts did receive 13 comments, which indicates that the assignment was successful in getting students to engage in discussion of each other's memorials, but only to a very minimal extent.

The following points summarize the results of the document analysis:

- Martin's reflection on his purposes for the assignment and the assignment itself align in terms of their goals; the goals were to engage students in research, summary, and rhetorical strategy, specifically, the relationship between multiple standpoints on an issue. In addition he hoped the assignment might engage them in the course's topic by illustrating how it was relevant to their immediate surroundings and by offering the possibility of engaging in a public conversation.
- Although the students' work illustrates that they were able to complete the assignment, it seems that they were not able to engage outsiders in discussion of their memorials.
- Martin's purpose for the assignment included a playful element; he hoped having them consider how memory is present on their own campus and the possibility of public discussion of their analyses might increase the students' engagement in the course's content.

Overall, the initial triangulation of the document analysis results reveals no inconsistencies between the goals of the assignment as represented in the assignment itself, the instructor's reflection, and how those goals are manifested in the students' work.

SURVEY RESULTS

The survey results are reported as they were in the previous chapters, first looking at the major themes that came out of coding the qualitative responses and then explaining the quantitative results for specific questions and comparing those numbers to the qualitative responses. This class was also a small writing course, with 16 students responding to the survey.

Qualitative Results

The survey produced a total of 89 written qualitative responses. The initial coding of these responses produced 23 codes, which were condensed down to 7 codes. These 7 codes represent the major patterns in the written responses. Only 2 of the 89 written responses could not be categorized into one of the patterns, and most fell into 2 or more patterns (the uncategorizeable responses are shown in Appendix G). The patterns from the last two chapters continue in this dataset, but one more pattern emerged here: skill. Table 6.1 summarizes the patterns giving their frequency within the dataset, how many surveys they appeared in, any major sub-codes, and a brief description.

Table 6.1. Pattern in students' qualitative responses about using *Google Earth*.

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Play	52/16	Enjoy, creative, explore, cool, social, interesting,	Responses that describe the experience using terms associated with play.
Visual	26/12	Connect/illustrate, see, visual, efficient	Responses that discuss the visual aspects of the assignment.
Goals	25/12	Memory/memorials, argumentation, informative, relevant	Responses that provide specific details about how the *Google Earth* assignment supported one of the learning goals outlined by the course or instructor.
Technical	11/8	Difficult, frustrating	Responses that discuss technical problems associated using *Google Earth* and *Panoramio*.

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Skill	8/6		Responses that explain that the assignment taught a new skill in learning how to use *Google Earth* and *Panoramio*.
Unnecessary	6/3		Responses that explain that the assignment was unnecessary or not note-worthy.

*The first number indicates the number of times this category appeared in the entire data set; the second number indicates the number of surveys the category appeared in out of 16 total surveys.

Play. In this case, play was the pattern that most frequently appeared in the written responses. And, as with previous cases, a response was labeled with the play pattern if the student used play-related terms such as creative, fun, entertaining, interesting, and so on, to describe the assignment. A response was only labeled play if it included a clear reference to one of these concepts; for example, "I thought it was a very interesting class assignment. It was much more fun and creative than just writing another paper…" The sub-codes interesting and enjoy appeared quite frequently within the play pattern (in11and 9 of the participants responses respectively), but three new sub-codes also emerged: explore, cool, and social. "Explore" was actually the most frequent sub-code within the play pattern, appearing in 13 surveys, and it was used to label responses that discussed enjoying using *Google Earth* to explore the campus or other locations of interest to the students. The responses that discussed exploring or playing around in *Google Earth* are categorized as play because they indicate that students were tinkering or experimenting with the tool. And they were not required to explore; they did it

because it was interesting and fun. For example, one student said, "It was interesting to find places on campus using a detailed map and to be able to look at pictures of specific places." Often these "explore" responses discuss looking at locations beyond the campus, as a student indicated in this response, "I think Google Earth is a very interesting and creative program that can be used in a variety of ways to learn about campus, local [community], and other places all over the globe." In addition, many of the students explained that the main way they intended to use *Google Earth* on their own time was to explore places of interest.

Responses that described *Google Earth* as "cool," "neat," or "amazing" were placed in the play pattern and labeled with the sub-code "cool." As one student explained, "I think it is amazing how you can look up any place in the world and post pictures and comments." Another said, "I thought it was a pretty neat experience because we can actually go to the exact spot of the statue on earth and then post our picture and our thoughts about it to share with other people." As these two quotations illustrate, often responses that were labeled cool were also related to the explore and social sub-codes.

The social sub-code was used to label responses that described enjoying the aspect of the assignment that allowed them to share their work with each other and the general public. As one student explained, "I thought it was pretty cool and interesting, I enjoy seeing people's pictures and their opinions about them." And another said, "It's new and nice that work we do in class is projected out into the net-cosmos where anyone/everyone can see." Several also said they enjoyed looking at the pictures of their campus that other people had added to *Google Earth*, or as this student explains, "It is very interesting to see the various pictures and comments people have added about places throughout campus." I considered grouping the all three of these unique sub-codes of the

play pattern (explore, cool, and social) under the "enjoy" sub-code, but these very particular ways of talking about the experience appeared so frequently that they represented trends worth noting.

Visual. The responses related to the visual aspects of *Google Earth* were practically oriented in this dataset. One major sub-code of this pattern was labeled "efficient" because many students explained that using *Google Earth* to look at the monuments was much easier than physically going to see them. As one student explained, "Being able to look at all the memorials while sitting at a computer was great. Especially since our campus is so big and there is no way we could have walked around to all the memorials." In addition, being able to see what the monument looked like, where it was, and read arguments and information about it was also important for many of to the students. For this student, for example, *Google Earth* helped them to connect their daily experience of the campus with the statues and sculptures they were seeing in *Panoramio*:

> Having a visual representation of what I was analyzing made me realize just what I was looking at because I probably looked at it before while passing, not thinking that much of a memorial or a statue. But having it placed on *Google Earth* geographically enables me to see just where it's located and what the statue/artwork is actually called and the history behind it.

For other students, having an image to look at was important in aiding their analysis of it: "When a paper or article analyzes the structure or parts of the memorial, it's easier to see if you actually have a picture of it, and consider the location of the memorial." For many students the visual aspects of *Google Earth* and *Panoramio* mainly contributed practical value.

More in line with the previous cases, many of the students also explained that the visual aspects of *Google Earth* and *Panoramio* simply made the assignment more engaging or creative. As this student explains, "Just reading what other people wrote would've been boring but since we conveniently could look at the picture and the comment- it made it more interesting." Another said that, "Visualizing the memorial put a more creative spin on the assignment and helped to figure out where everything was in relation to the campus buildings." So in this dataset, it seems that while the visual components of *Google Earth* were an important part of why the assignment was a playful experience, it was also a critical component of the functionality and practicality of the assignment.

Goals. Students referenced the goals of the course in several different ways. Most frequently students explained that they found the assignment "relevant" to the rest of the course. These responses were often quite general, as this one illustrates, "I thought the assignment was useful and definitely related to the memory and forgetting concepts we discuss in class." And another student said simply, "Using *Google Earth* was pretty simple and analyzing the memorials applied to the course in a big way." However, others were more specific, explaining that, "I think it was consistent with the rest of our course work in this class because it made us think about whether certain memorials should be on campus or not and if we should remember them." Another said, "I felt like it was very applicable to the course because the assignment gave us insight into what people want to remember and how they remember these things." In these more specific responses, it seems that students found the *Google Earth* assignment relevant because it allowed them to think about the concepts of memory and forgetting through examples that they experienced in their day-to-day lives as they moved through campus.

Within the goals pattern there was also, not surprisingly, much discussion of learning about the memorials and memory in general, and these responses were labeled with the sub-code memorials/memory. For many students, the assignment led them to reflect on the prevalence of memory; for example, "By looking at all of the different monuments the university has, I noticed how memories really are everywhere whether we notice or not. This assignment allowed me to realize how much history is all around our campus." Many of the responses also explained that the assignment simply made them more knowledgeable about the memorials, "I found the assignment interesting in that I am now more knowledgeable of many memorials around campus and their deeper meaning."

Many of the students also discussed how the assignment related to argumentation and seeing both sides of the debate. One student said, "This assignment allowed me to inform myself on monuments around campus and research more about them. It also allowed me to think about controversy behind these monuments and ask myself whether they should remain or removed; or if this should be remembered or forgotten." Another explained that, "it made us think about whether certain memorials should be on campus or not and if we should remember them." And this response explains how the assignment was useful in multiple ways:

> This assignment was a positive experience for me because I had the chance to find a statue on campus, research it, and argue for two different sides of the argument being presented. It gave me a chance to notice more of the statues on campus and learn more about each of them as well as think about why they are there and what they represent.

These types of responses indicate that Martin's goals of getting students to consider multiple points of view and to consider the course's theme of memory and forgetting in

terms of their everyday experience were largely successful. The goals pattern appeared in 75% of the surveys, and 2 or more of the goals sub-codes appeared in many of those surveys, so most of the students found the assignment useful in 2 or more of these ways.

Technical. As with all the other cases, there was a significant amount of discussion of technical problems in the written responses. A few of the students described experiencing relatively serious problems viewing their work: as one example "I posted my picture and article for the assignment for this class and I haven't seen it up at all, and that frustrates me a little bit." Since the photographs had to be approved by a site administrator, several students mentioned experiences like this. However, as the following response indicates, the majority of students were not overly inconvenienced by these problems, "I did not find it tedious, but it was a little frustrating when the photo didn't show up and confusing when certain things in the program itself went array. But I thought overall it was a good assignment!" It seems that for the *Google Earth* case, students experienced more serious technical issues than in the previous cases, but in general these issues did not seriously impact their overall experience.

Skill. About 40% of the students explained that one of the reasons they appreciated the assignment was because it required them to learn to use *Google Earth*, thus providing them with a new skill. One student said, "It was fun to incorporate a writing assignment with *Google Earth* and useful because now I know how to utilize the site." And another explained, "it was a nice experience and it got me more familiar with the features on *Google Earth*, so when I use it by myself, I will know what to do." It seems that most of the students had heard about or seen other people use *Google Earth*, and were happy to have a reason to learn to use it. In general, they were pleased to come away from the assignment with a new skill or experience.

Unnecessary. There were only 2 students, or 12% of the respondents, whose responses fell into the unnecessary pattern, and only one of those students truly felt that the assignment was unnecessary in that the same result could have been achieved without the use of *Google Earth*. That student explains their problems with the assignment in this detailed response:

> I just didn't think the *Google Earth* experience was that great. Yes it provided a visual representation of our work, but we could have achieved that in a number of other creative ways. The same is true for the *Google Earth* experience helping me understand UT's memorials. I don't think I gained any unique perspective on UT's memorials, though in the process of researching my own memorial, I learned about quite a few others. However, again, this could all have been done without the use of *Google Earth*. Thinking of memory in terms of whether or not I spent time at the place of the "memorial" was not really helpful and I didn't really generate any unique ideas about remembering and forgetting from the *Google Earth* experience.

So for this student the use of *Google Earth* was not only unnecessary, it was not very useful as a learning experience.

The other student whose responses were placed into the unnecessary category is not quite as critical. This student explained that, "I just felt like it was another assignment, and I did not necessarily find it that much more enjoyable than just a research summary." In other responses, this student described finding the visual aspects of the assignment useful, but seems to have not found the experience particularly engaging or interesting. "Neutral" might be a better term for describing this student's opinion of the *Google Earth* assignment.

Quantitative Results

This section will explain the results for the qualitative questions. Again, discussion of these results is organized into subsections based on the research questions, and discussion of the quantitative results for a particular question are immediately followed by discussion of the qualitative results for that question. The goal is to compare the two types of data in order to confirm or note discrepancies in the data. As I discuss the quantitative results in percentages and averages, it is again important to note that 16 students responded to my survey.

The Experience

My first research question aimed to better understand students' overall experience with *Google Earth*, and specifically, to what extent they had a playful experience. Thus, the survey question asked directly, "How would you characterize your experience of using *Google Earth* for the memorial assignment? Choose all that apply." Students were then offered a series of descriptors and which they ranked on a 4-point Likert-type scale from 1-4 (Not at all/Very). The descriptors offered were interesting, fun, useful, creative, tedious, frustrating, confusing.[8] The results of this question are shown below in Figure 6.1.

[8] This question uses different terms for both the Likert-type scale and the descriptors, and uses a 4-point rather than a 5-point scale. Only this question and one other (about the skills learned during the assignment) have these discrepancies. These differences are due to researcher error in editing the survey as it was revised from the version used in the *SL* case.

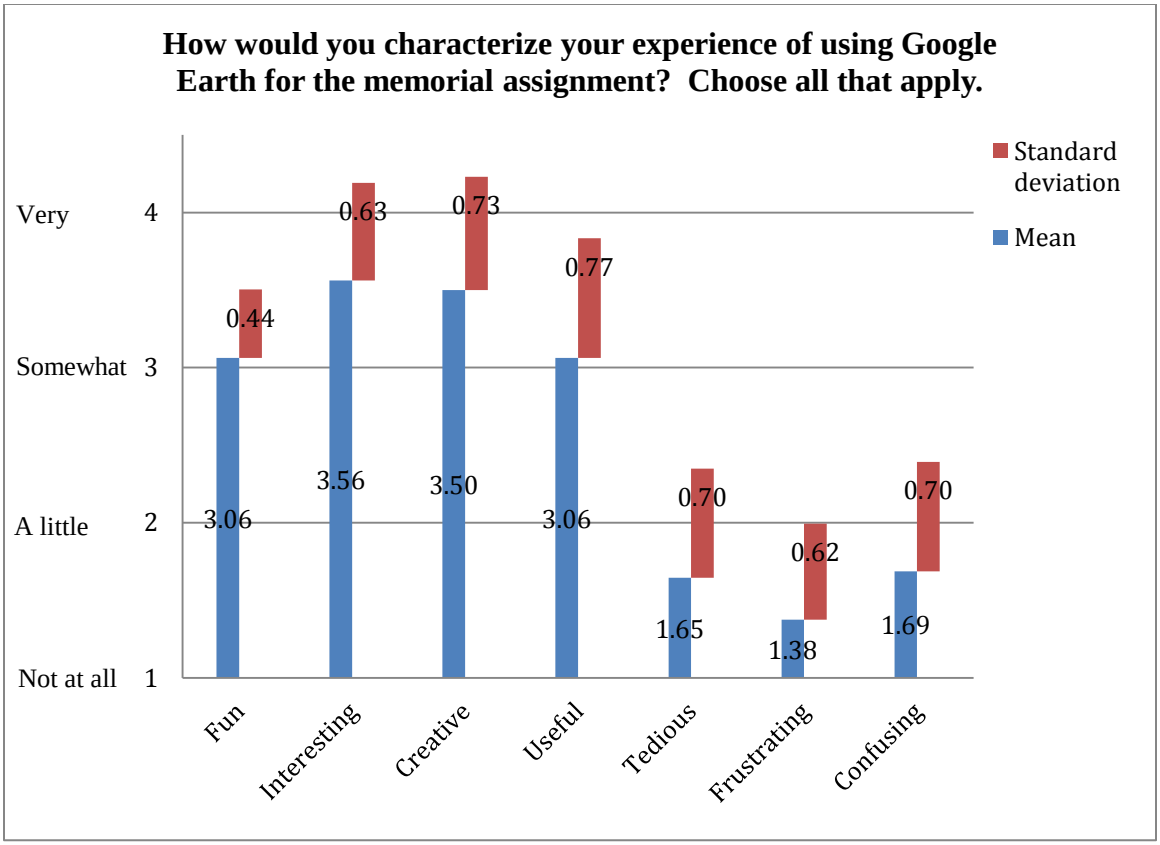

Fig. 6.1. Results for the experience question in means and standard deviations

On average students found *Google Earth* "somewhat" fun and useful, and between "somewhat" and "very" interesting and creative. Looking at the negative descriptors, students on average found *Google Earth* to be "not at all" or "a little" frustrating (1.38), confusing (1.69), and tedious (1.65). There was also a relatively high rate of consensus for this question because all of the standard deviations are below 1. Figure 6.2 shows the detailed results for this question in percentages.

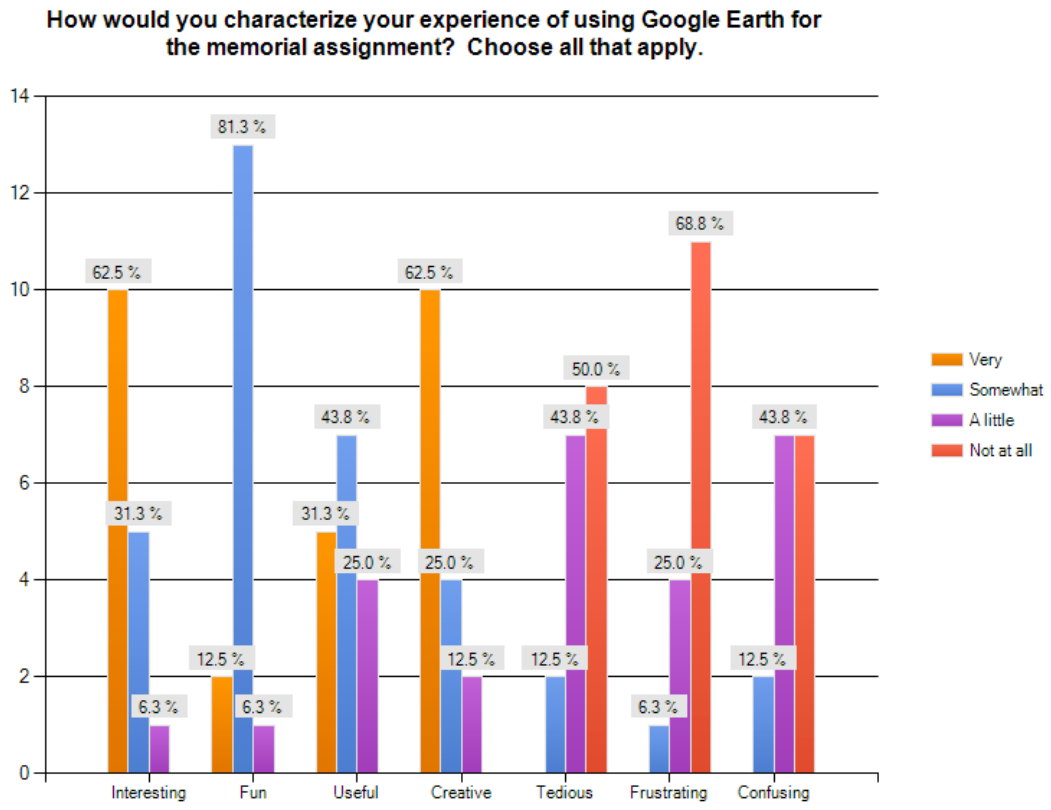

Fig. 6.2. Detailed results for the experience question in percentages.

When we compare these results to results of the paired question that asked students to explain their answers, the two patterns that appear most frequently are play (15 times) and technical (7 times). The qualitative results are consistent with the quantitative results here because in the written responses almost every student referenced play concepts, which accounts for their general agreement that the assignment was interesting, creative, and to a lesser extent fun. And the 7 written responses that discuss technical problems account for the students who responded that they experienced "a little" frustration, tedium, and confusion.

Relevance to the Learning Goals

The next several questions were used to determine how useful the assignment was in terms of the general goals of the course and the instructor's specific goals for the assignment. The first question asked students directly about what skills they felt were supported by the assignment. It asked, "Rate how useful the *Google Earth* assignment was for helping you with the following skills." The students rated the following options on a 4-point Likert-type scale from 1-4 (Not useful at all/Very useful): research skills, considering both sides of an argument, and writing skills.[9] These options were chosen because they represent the major goals of this course (research, writing, and argumentation skills), and were meant to get a general sense of the utility of the assignment. The results for this question in means and standard deviations are shown in Figure 6.3.

[9] This is the other question that used a 4-point scale and different scale labels due to researcher error.

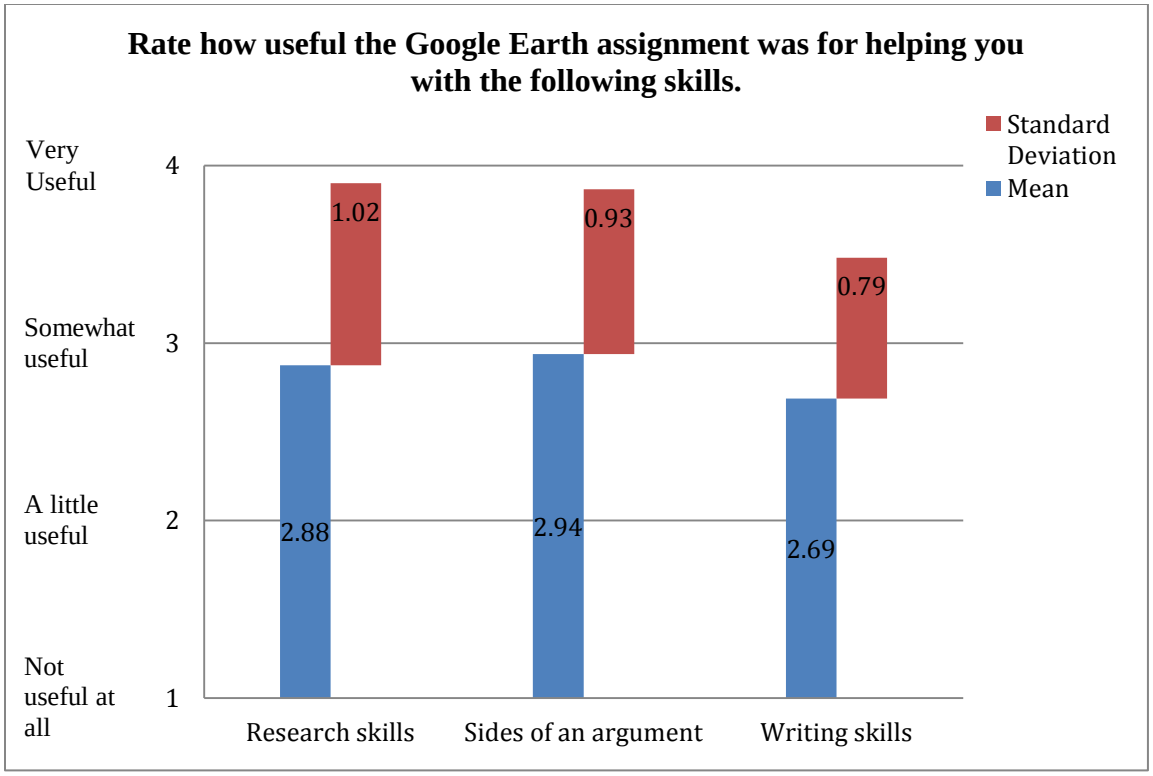

Fig. 6.3. Results for the skills question in means and standard deviations.

As Figure 6.3 illustrates, students on average found the *Google Earth* assignment "Somewhat useful" in terms of these skills. However, the standard deviations for "Research skills," and "Arguing both sides of an argument" are quite high, indicating that there was a wide range of responses. Although the standard deviation for the writing skills option is lower, it is still somewhat high for the entire dataset, and the detailed results show that 50% of students found the assignment "Somewhat useful" in terms of writing skills. No qualitative data was collected for this question. The detailed responses in percentages are shown below in Figure 6.4.

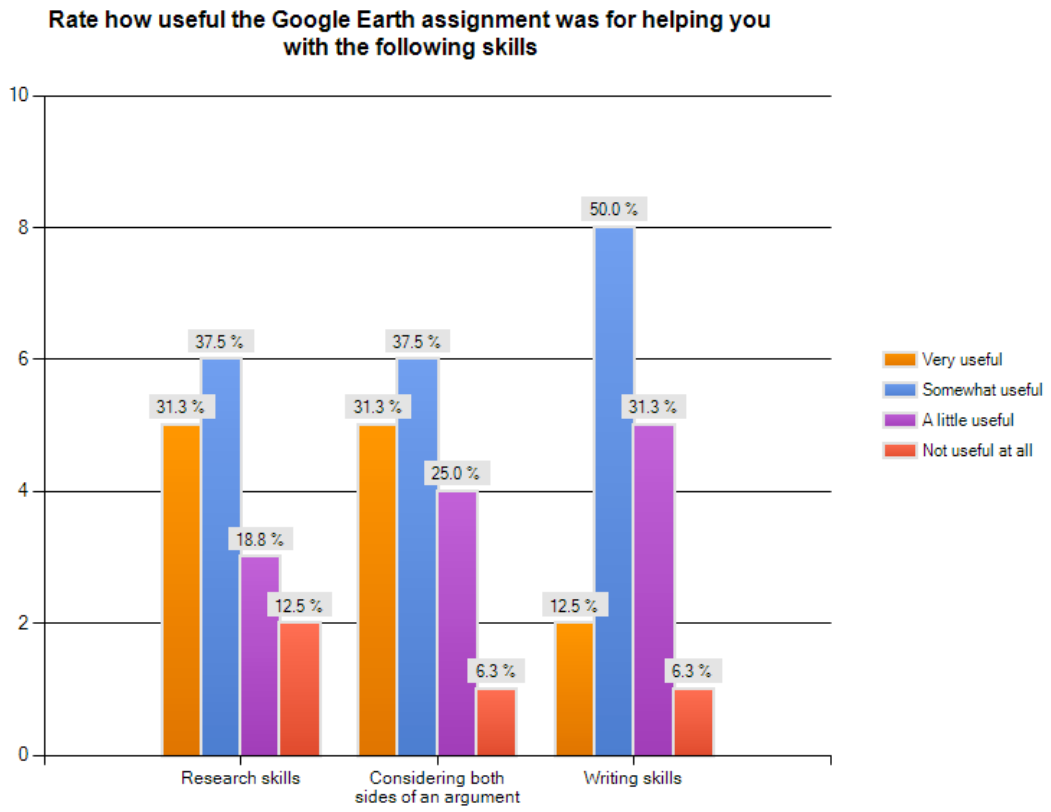

Fig. 6.4. Detailed results for the skills question in percentages.

The next question asked the students what they liked about the assignment, and offered options that were more closely related to the specific goals of the assignment, than to the general goals of the course as in the previous question. The options were "It provided a visual representation of our work on the memorials," "It helped me to understand the memorials," "It offered a unique way to think about the memorials," "It was helpful to think about memory in terms of a place where we spend so much time," and "It helped me to generate ideas about remembering and forgetting." Students rated these options on a 5-point Likert-type scale from 1-5 (strongly disagree/strongly agree).

The results for this question in means and standard deviations are shown in Figure 6.5 below.

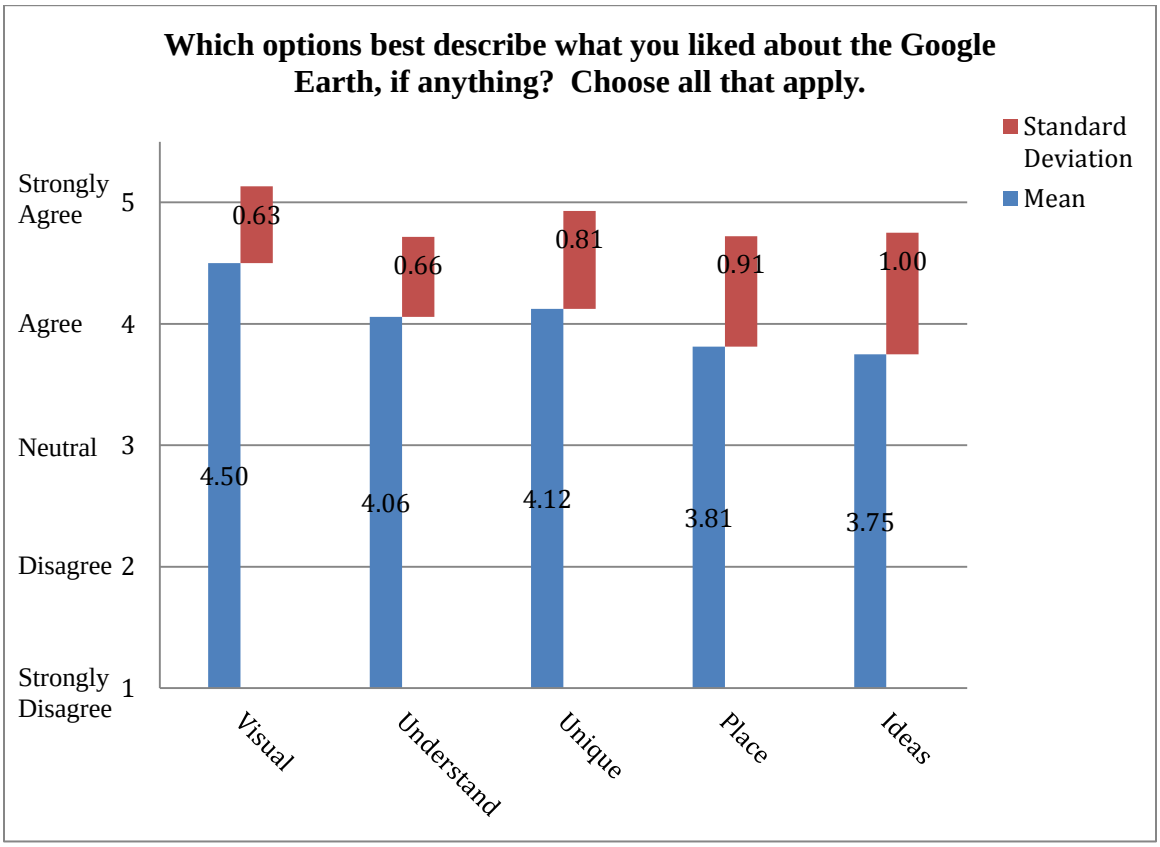

Fig. 6.5. Results of the positive factors question in means and standard deviations.

These results show that students agreed or strongly agreed that they liked the visual representation of the memorials provided by the assignment, and agreed that it helped them to understand the memorials. Students also agreed that they liked that the assignment provided a unique way to think about the memorials. Here, however, the standard deviation is a bit high, which is explained by the fact that 25% of students responded "neutral" for this option. Finally, students agreed or were neutral about liking

that the assignment allowed them to consider memory in terms of a familiar place and that it helped them to generate ideas about remembering and forgetting. Here, the standard deviations are even higher, at around 1, indicating that a few students responded "disagree" for these options. Overall, however, these results are extremely positive with 75-90% of students responding "agree" or "strongly agree" for each of these options. The detailed results for this question are shown below in Figure 6.6.

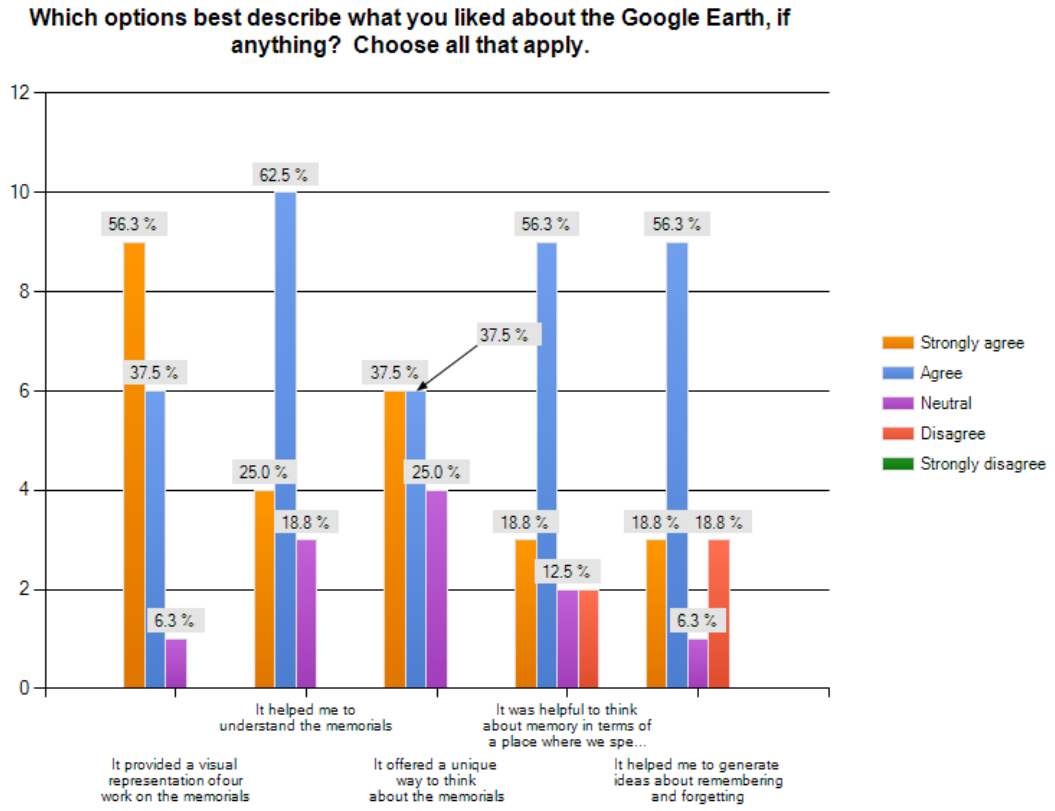

Fig. 6.6. Detailed results for the assignment-specific utility question in percentages.

When asked to explain their quantitative responses, not surprisingly, most of the students' written responses (10 of 14) fall into the goals pattern. Students mainly

discussed learning about the memorials and the history of the campus during the assignment. Many students also explained that the assignment made them realize how many memorials there were on campus and their significance: "After this project, I noticed many more statues and memorials on campus and thought about what they actually represent more than I ever did before." Overall, these responses focus on gaining knowledge about the memorials and realizing the prevalence of memorials on campus.

The next question was meant to offer students a way to discuss any negative aspect of the assignment or to voice complaints about it. The question asked, "Which options best described what you disliked about using *Google Earth*, if anything? Respond to all that apply." The students rated the following options on the same 5-point Likert-type scale: "It added seemingly unnecessary work," "I didn't understand how it connected to the rest of the course," "It was difficult to use," and "It presented an overwhelming amount of information." These options were chosen because they represent plausible problems that the students might have with using *Google Earth* for this assignment. The results for this question are shown in Figure 6.7 in means and standard deviations.

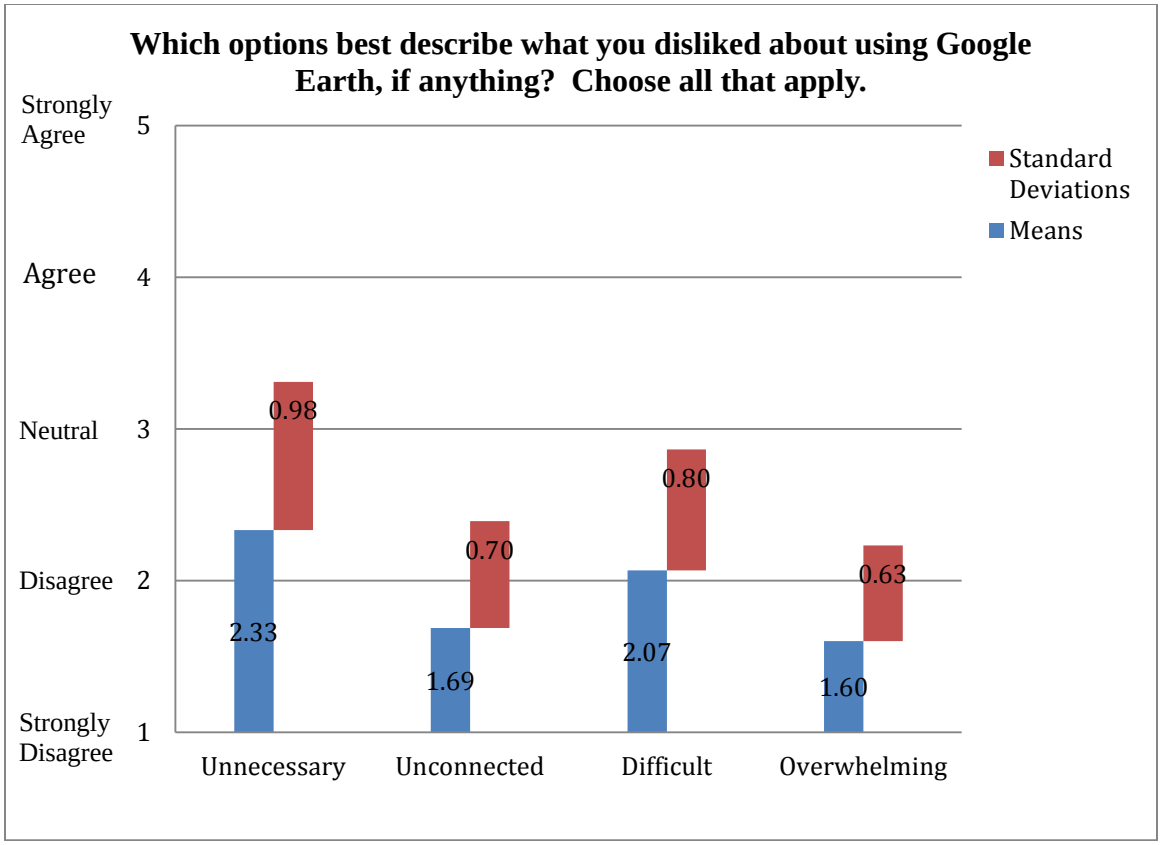

Fig. 6.7. Results of the negative factors question in means and standard deviations.

Students on average disagreed that the assignment was unconnected to the course, *Google Earth* was difficult to use, or that it presented an overwhelming amount of information. Students also disagreed that the assignment was unnecessary, but the numbers are a bit above "disagree" at 2.33, and the standard deviation is close to 1, indicating that some students responded "neutral" and "agree" for this option. The detailed results in percentages are shown in Figure 6.8 below.

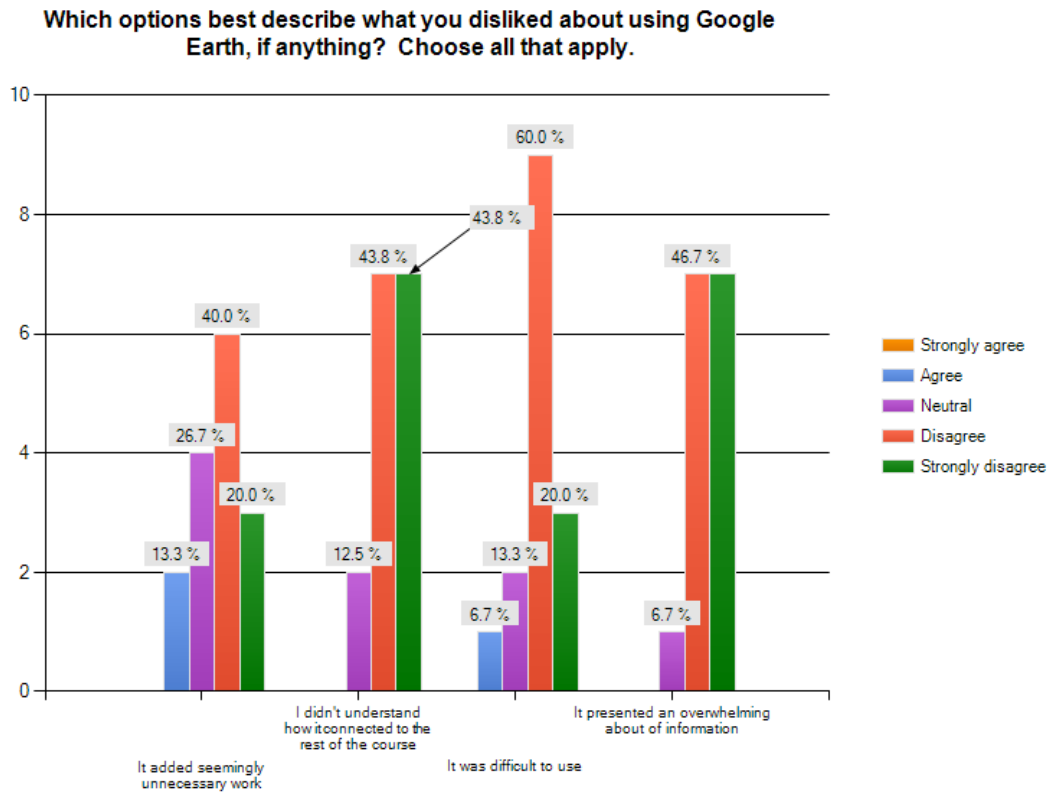

Fig. 6.8. Detailed results for the negative factors question in percentages.

The student's written responses to this question most commonly fall into the goals (9 responses) and play (4 responses) patterns, with 1 reference to the unnecessary pattern, and 2 students discussing technical problems. Many of these responses explain that the assignment was clearly relevant to the larger course, for example, "I thought the assignment was useful and definitely related to the memory and forgetting concepts we discuss in class." Aside from those patterns, students seemed to use the qualitative question to talk about what they liked about the assignment, for example, "*Google Earth* is not hard to use at all and I actually enjoy navigating through UT in a birdseye view."

Overall these questions that aimed to determined how useful the *Google Earth* assignment was reveal that it was probably most successful at showing students the presence of memory in everyday spaces and the significance of those memorials in terms of the courses theme of memory and forgetting. Although in the quantitative responses students generally agree that the assignment was useful for core research, writing, and argumentation skills, they don't discuss these topics specifically in their written responses, which might indicate that they saw how the assignment incorporated these skills in a general sense, but did not have specific examples to discuss in the written responses.

The Visual Components

The following question was designed to help answer my research question about the impact of the visual nature of these technologies: "What effect do you think the visual nature of *Google Earth* had on your experience of the memorial project, if any? Respond to all that apply." This question was structured similarly to the experience question, and students used the same 5-point Likert-type scale to rate the following options: "It was fun to consider the memorials geographically," "It felt creative to create a map of the memorials," "It was interesting to consider the memorials geographically," and so on with "easier," "frustrating," "confusing," and "difficult." The tedious option was replaced here by "It had no effect" because it seemed more likely to apply to apply to their experience. The results for this question in means and standard deviations are show in Figure 6.9.

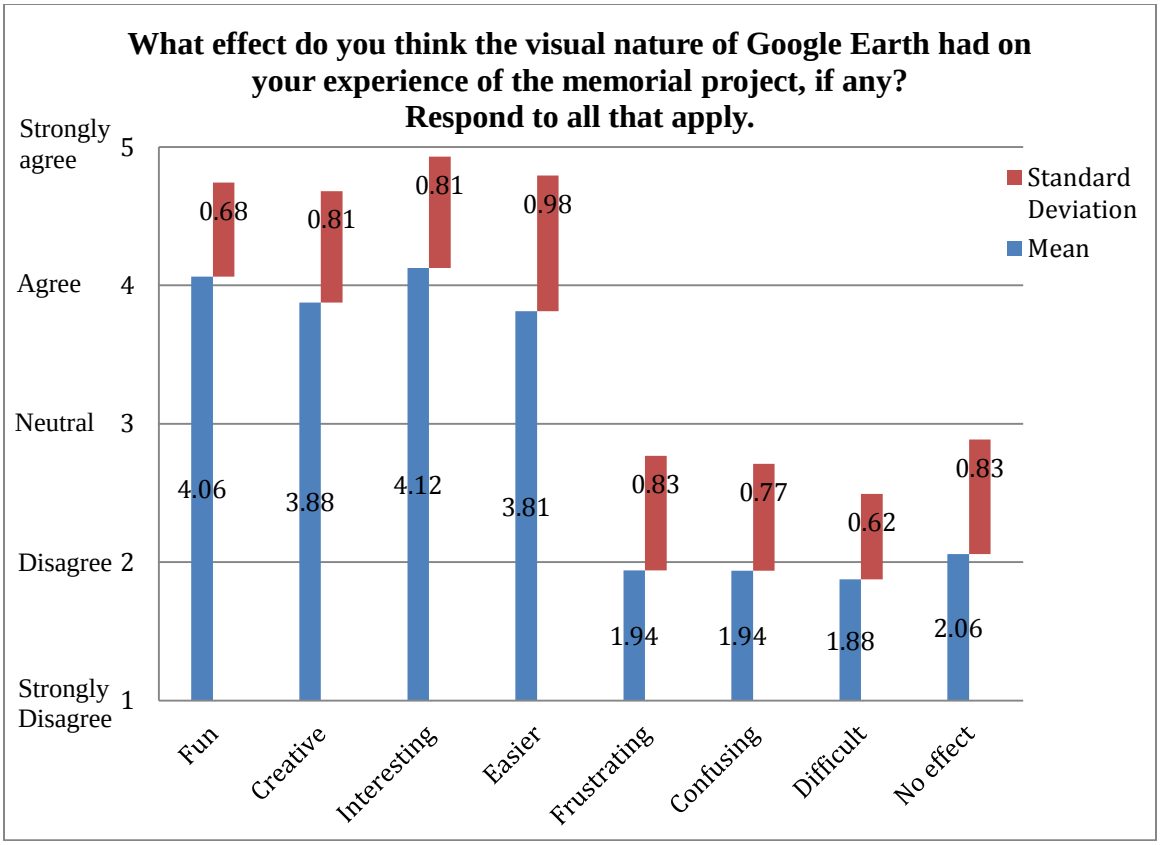

Fig. 6.9. Results for the visual question in means and standard deviations.

As the chart shows, students on average agreed that the visual nature of *Google Earth* made the assignment fun, creative, interesting, and easier. They also generally disagreed that it made the assignment frustrating, confusing, difficult, or had no effect. The standard deviations are close to 1 for "creative," "interesting," "easier," and "no effect," which reflect a higher instance of "neutral" responses. The same is true for the options "frustrating" and "confusing," but in these cases the higher standard deviations are due to a small number of students who responded "disagree" (6.3% for both). The detailed results for this question are shown in Figure 6.10.

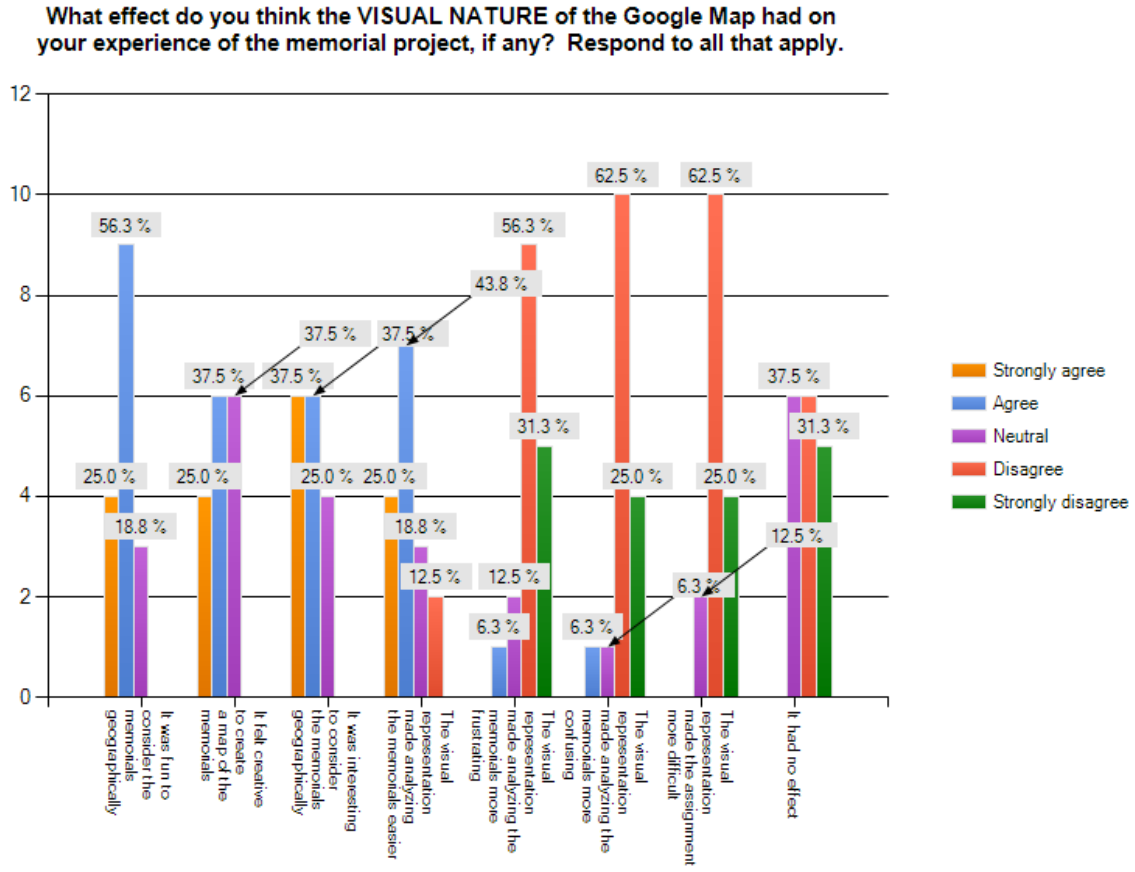

Fig. 6.10. Detailed results for the visual nature question in percentages.

The written responses for this question almost exclusively fall into the visual or play patterns. Many students explained that it was helpful to know where the memorial was located, "Using maps made it easier to connect the memorial to a real location on campus because you could see geographically where it is." Other responses explained that having an image of the memorial was critical for analysis: "It definitely helped to look at the memorial while discussing it in class." And finally, many of the responses made general statements about how the visual aspects of the tool made the assignment

more fun, interesting, or creative. This response encapsulates the message of most of the qualitative responses for this question, "Visualizing the memorial put a more creative spin on the assignment and helped to figure out where everything was in relation to the campus buildings." Overall, it is clear that while students did appreciate the visual aspects of these tools because they made the assignment a more creative or engaging experience, more often students commented that the visual components of these tools made this assignment easier to carry out, with many explaining that the assignment would have been much more tedious and difficult without the easy access to images of the memorials and the map to help students situate the memorial's location on campus.

Future Use and Overall Attitude

As with the previous cases, the last several survey questions were designed to determine whether the students would use *Google Earth* again on their own and their overall attitude about *Google Earth*. When asked if they would use *Google Earth* again, 7 responded "absolutely," 6 responded "possibly" and 2 responded "no." Of those who thought they would use it again, 13 said they would use *Google Earth* for personal uses, 3 said they would use it at work, and 8 said they would use it for other classes. When asked to explain their answers, most students discussed using *Google Earth* for entertainment or travel purposes, and the most common pattern in the responses was play, specifically the sub-code "explore." This student's response illustrates the feeling of these responses, "It might help me locate a place if I don't know how to get there, or it might be just fun to explore the UT campus or other places on my free time."

The final question asked, "Which of the following best describes your overall attitude towards using *Google Earth* in this course?" Figure 6.11 shows the results for this question.

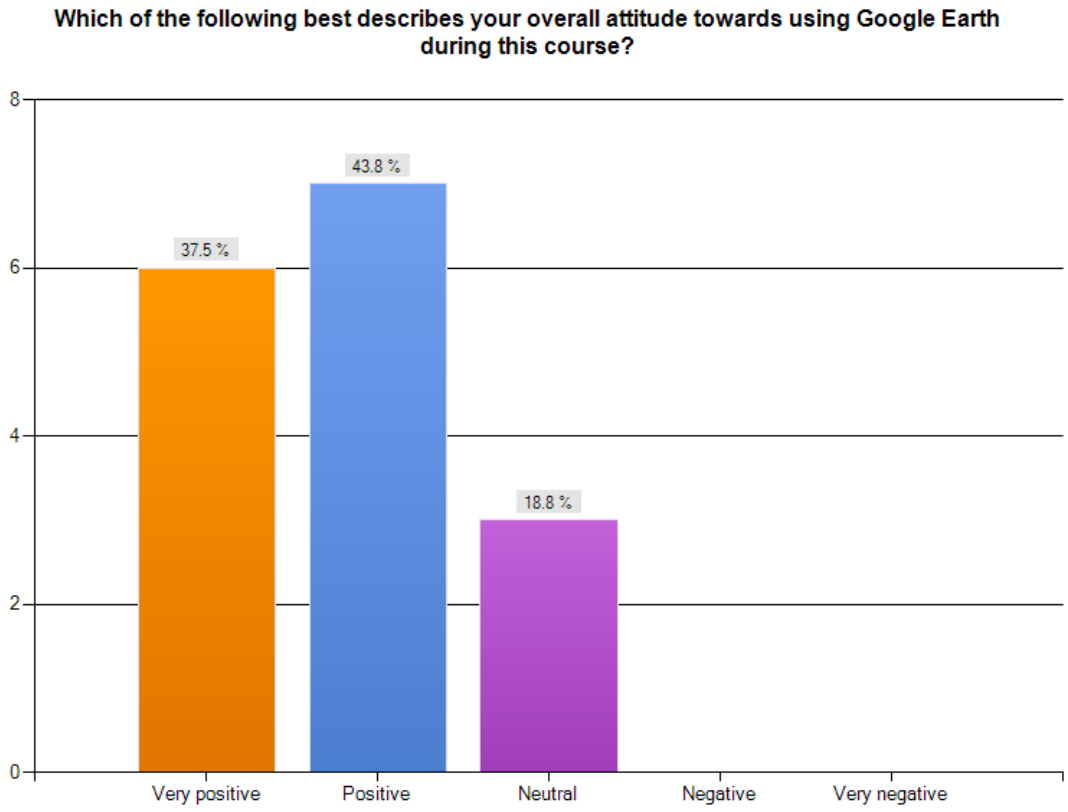

Fig. 6.11. Results of the overall attitude question.

When asked to explain their answer, the responses range from the very general, "*Google Earth* is pretty cool and I enjoyed using it" to very specific, "This assignment allowed me to inform myself on monuments around campus and research more about them. I also allowed me to think about controversy behind these monuments and ask myself whether they should remain or removed; or if this should be remembered or

forgotten." The "neutral" perspective is represented in responses like this, "It was ok to use *Google Earth* in class while discussing the monument projects, but I don't know how often I would use it in the future."

The following points summarize the major results of the survey:

- The students described enjoying their experience for several different reasons that are related to play. Here the students described the assignment as fun, interesting, and creative, but also thought it was cool, and enjoyed exploring new and familiar places, as well as the social aspects of the tool.
- The students felt that the assignment was useful for a variety of reasons including building research skills, understanding multiple standpoints, and learning about their campuses' memorials and the prevalence of memory on campus.
- Students found the visual aspects of *Google Earth* both enjoyable and useful, explaining how the images made it to easier to understand the analysis of the memorials as well as easier to execute the assignment.

Triangulation of the data shows that both the qualitative and quantitative responses support these findings, and the assignment's purposes in both the instructor reflection and the assignment itself align with the survey results. The students' work also corroborates the students' descriptions of how they found the assignment useful. The survey results also seem to confirm that students were unable to engage in public conversation with the larger public because none of them discussed such an experience in their written responses. However, some students described enjoying the social aspects of the tool

(viewing other people's work and photos) and at least the possibility that their work might reach a larger audience than just the teacher or their classmates.

IMPLICATIONS

In terms of the students' overall experience of the *Google Earth* assignment, this is the first set of results where the play pattern appeared most frequently in the students' written responses. Both the qualitative and quantitative results show that students clearly enjoyed this assignment because *Google Earth*, to use the students' term, is "cool," because it has a social dimension that allows students to view the photos and commentary of other students and users, because it allows them to "explore" places of interest, and because they came away from the assignment with the new skill of uploading and sharing photos, and of using *Google Earth* itself. All of these different factors seem to have contributed to the students' overall enjoyment of the experience. And although further research is needed, all of these aspects of the students' experience seem to indicate that they were at least partially intrinsically motivated to use *Google Earth* because the tool interested them (it is "cool"); they were provided a space to experiment, or "explore," on their own; it allowed them to contribute content and share it; and it left them with feelings of accomplishment, or a new skill. This intrinsic motivation seems to have made the experience more playful and enjoyable for the students. In addition to intrinsic motivation, the students' *Google Earth* experience seems to match several of the characteristics of play as defined in Figure 1.1 of Chapter 1. First, it provided a space for innovation or experimentation, which the students described as "exploring." Second, it

presented challenges that were matched with the students' skill level, leading students to appreciate leaving the assignment with a new skill. It also seems to have left them with feelings of accomplishment because it allowed them to share their work with the larger public. Overall, the students' experience seems more complex than in the previous cases, where students most often described using the terms offered by the survey: fun, interesting, and creative.

In terms of how applicable the *Google Earth* assignment was to the traditional goals of the writing course, students generally agreed that it helped them with research and rhetorical skills. They were less enthusiastic about its applicability to the development of writing skills. However, the assignment seems to have been successful in terms of Martin's specific goals of exploring the concepts of memory and forgetting, considering multiple sides of the argument, and applying the central themes of the course to the students' day-to-day experiences. As with the previous cases, there is some evidence based on the students' responses that *Google Earth* functioned as a model, in Gee's sense of the term, allowing students to simplify the campus down to just its memorials. The experience of viewing the campus through this filter in *Google Earth* also seems to have affected the students' experience of the campus since so many of the students described noticing memorials more often and realizing how many there are on the campus. Further research is needed, but it is also possible that considering memorials just on the campus provided a model of how memorials function in the larger society, which then may have made the theme of the course less unwieldy.

Finally, similarly to the previous cases, students also felt that the visual aspects of these *Google Earth* and *Panoramio* made the assignment a creative, interesting, and engaging experience. However, there was more emphasis in the students' written responses on how the visual aspects of these tools were an important part of the assignment's usefulness and practical execution. Students were explained that having an image of the memorials helped them understand the discussion of that memorial and that knowing the memorial's location helped them connect it to their experience of the campus. They also indicated that without these visuals, the assignment would have been much more difficult to execute and much less enjoyable.

Comparing these results to the previous two cases, we see new trends in that students described the experience of using *Google Earth* in ways not seen in the mind maps or *Google Maps* results. In addition, although the *Google Maps* case seems to confirm the claims of previous anecdotal reports reviewed in Chapter 2 about how web mapping tools support the goals of a writing course, the *Google Earth* case seems to confirm both the claims about utility and about student enjoyment and engagement. Chapter 7 will reveal whether this balance between utility and play can be maintained as the technology gets more complex in the virtual environment of *SL*.

Chapter 7: Findings and Implications for the *Second Life* Case

"There was no clear objective, this made it confusing at times."

"With a little tweaking and more experimentation I think this can really bloom into an excellent teaching tool."

This chapter will report the results and implications of the *Second Life* case. Similar to the other chapters, first the course, assignment, instructor, in-class observations, and student work will be discussed. Then the results of the survey results will be reported, making up the majority of the chapter.

THE COURSE, ASSIGNMENT, AND INSTRUCTOR

Second Life was used in an upper-division rhetoric course, titled "Writing in Digital Environments." The students ranged from first through post-fourth year students, all of whom had taken at least one rhetoric course before. As its title suggests, the major goal of this course is to learn about writing in digital environments, and to consider how writing and rhetoric function differently in different environments and media, such as twitter, websites, online video, wikis, and so on. *Second Life* (*SL*) was one of these digital environments, and the students' activities in *SL* were related to projects they were working on in other digital environments. The instructor for the course, Michael, a pseudonym, was an English doctoral student with several years of teaching experience, which was why he was teaching an advanced rhetoric course. In addition, Michael was a central figure in the development of the rhetoric video game *Rhetorical Peaks*, which, as

I will explain, was the basis for the students' activities in *SL*. Michael was part of a group of graduate students in his department who had designed the game.

To understand the rationale and learning goals of the students' activities in *SL* in this course, several other assignments and activities need to be explained. Before the students began using *SL*, they had played the Adobe Flash version of *Rhetorical Peaks*. In the game, the player enters the town of Rhetorical Peaks, and is asked to help the town deal with the recent murder/suicide of Lisa Sophist, an important member of the community. Players interview various townspeople about Lisa and the circumstances of her death. Ultimately, there is no ending to *Rhetorical Peaks*. After playing the game, students make arguments about who is at fault and how the town should go about recovering from the tragedy, using rhetorical analysis and strategy that they have been learning about in the course. After playing the game Michael's students were assigned to choose a real rhetor (for example one student chose Angela Davis, another chose Steven Colbert), research the rhetor in order understand their views and rhetorical style, and design a character for *Rhetorical Peaks* based on the real rhetor. Students put an immense amount of work into this portion of the assignment, designing websites to present their rhetor, character, and research, which included several pages, images, and sometimes video.

It was at this point that *SL* became part of the project. Michael and the research group had built a *Rhetorical Peaks* space in *SL* modeled after the Adobe Flash version. Their purpose was to create a role-playing space, where students could act out possible endings and resolutions for the video game, and where the game might develop in other

directions as well. The students created avatars based on the characters they had designed (for this portion of their activities Michael had written up instructions, which are shown in Appendix L), and then were tasked with role-playing as those characters in *SL* with the purpose of coming up with a way to rebuild trust in the Rhetorical Peaks community. Michael provided two rules to guide the students in *SL*: "stay in character and create a possibility space in which the town can regain a sense of trust." Michael did not define "possibility space" in the assignment, but it is described by video game theorist, Ian Bogost, as the space in any media for creative expression and innovation ("Time"). Beyond the role-playing activity, Michael left the assignment open-ended. He viewed it as an experimental assignment, and from the beginning intended to modify the students' activities in *SL* based on what the students thought would best help them achieve the goal of re-establishing trust in Rhetorical Peaks and take advantage of the affordances of *SL* as a unique digital environment. I will explain how the assignment played out when I discuss my analysis of my classroom observations and audio-recordings.

Michael's learning goals for the assignment were influenced by the learning goals for the course and his work on the larger *Rhetorical Peaks* project. Michael was interested in the concept of an open-ended rhetoric video game, and the course and *SL* offered an opportunity for him to test such a game. As he explained in his reflection (see Appendix M),

> We [Michael and other graduate students working on *Rhetorical Peaks*] wanted the game to be open-ended enough that part of the challenge was to keep things

> going, to respond to the tragedy and contribute to the community in some way. There were various possibilities here, but I was particularly interested in having students design characters, and Second Life offered a space where these characters could come to life. At the very least, students could create avatars that embodied their characters; also, they could literally build upon and contribute to the town and community of Rhetorical Peaks. The main challenge was whether or not students could actually "play" as their characters in Second Life, but this virtual environment at least afforded the opportunity to try.

So for Michael, *SL* provided a game-like open-ended space, where he could test out the idea of having students design and role-play characters. In addition, the openness of *SL*, the fact that one can fairly easily collect objects to build with and modify their avatar in almost any number of ways, fit well with the goal of testing an open-ended video game. In *SL*, students could decide where they wanted to take the game and could feasibly execute those goals.

However, *SL*, as a very unique digital environment, also fit well with the focus of the course, which Michael described as "multimedia writing." He explains, "I wanted students to produce texts in digital writing environments and to reflect on the similarities and differences between this sort of writing and more traditional writing assignments." By the time the students started using *SL* they had already been creating texts in various digital spaces: wikis, websites, twitter, and video games. They had already been considering how the medium affects communication in all of these different environments, and *SL* provided another very different environment in which to consider

the course's basic questions. So the purpose for the *SL* activities was to have students create "texts" in *SL*, and that would include their avatar and anything else they produced in *SL*. It would provide another digital environment that could be compared to the other digital tools and spaces they had been using, as well as to traditional forms of writing.

Finally, in terms of the traditional goals of a rhetoric course, Matt and his fellow researchers hoped that the openness of *SL* might provide a space to experience a "real" rhetorical situation through their role-playing activity, and in such a space they might be able to put their understanding of rhetorical strategy to use. Because the students had to achieve a goal (re-establishing trust in the town) in character, they had to account for the multiple ways that that goal might be achieved, the attitudes of their characters, and the responses and actions of their classmates. Thus, another central goal of this assignment was to use the role-playing activity in *SL* to help students consider and experience how rhetoric works in practice.

The following points summarize the major results of analysis of the assignment and Michael's reflection.

- Of all the cases, the purposes of the assignment for the *SL* case was the most explicitly playful; Michael was attempting to get his students to be creative and innovative while using rhetorical strategies and analysis in *SL*, as well as the other affordances of the space, such as building. To this end, the assignment was left open-ended with the goal of allowing students to determine the outcome.

- The assignment's goals and Michael's reflection on his purposes for the assignment corroborate each other. The *SL* experience was meant to provide another example of how rhetoric functions in digital environments and allow students to experience how rhetorical strategy works in a "real" rhetorical scenario. In addition, the assignment was meant to explore what an open-ended rhetoric video game might look like.

STUDENT WORK: IN-CLASS OBSERVATIONS AND THE OUTCOME OF THE ASSIGNMENT

Students were not required to work on the *SL* portion of the assignment outside of class (although many of the students did work on aspects of their *SL* activities on their own time). All of their interactions in *SL* occurred in-class; students entered *SL* on the computers in their classroom and all group interactions occurred while students were in the same classroom. Thus, in order to observe students using *SL*, I attended each class period where the class either used or discussed *SL*, entered *SL* myself and observed their interactions there, and observed and audio-recorded any class discussion held about their experiences or activities in *SL*. I attended seven class periods for anywhere from 30-50 minutes depending on how much class time was devoted to *SL* that day.

The class spent the first two class-periods working on modifying their avatars to look like the characters they had designed and learning how to move, interact, and use the communication features of *SL*. These two class periods seemed to be enjoyable for most of the students, with students having fun playing with the avatar modification options, learning how to move, exploring *SL*, and interacting with other users in *SL*. Students

were asking each other and Michael for help when they ran into problems, and overall they seemed amused and very interested in the experience. My observations illustrate how difficult the *SL* experience is to control since there are users from all over the world in the same space as the students. For example, one student, who went to a dance club in *SL*, was offered a dancing script by another user. She accepted it, not really knowing what that meant, and then could not stop her avatar from dancing. Both she and the rest of the class found this very funny. Another student was asked to join a group, she accepted, and then found that this caused the group's name "Bootylicious" to appear over her avatar, which she found very funny. Overall, the students seemed very amused by these random interactions and funny problems and did not seem irritated when the problem could not be resolved immediately.

It seems that the students could have spent an unlimited amount of time modifying their avatars, and after two class periods focused on avatars, Michael had to move the students into the role-playing portion of the assignment regardless of what their avatars looked like. As he said in class:

> At this point, your avatar looks the way it looks; that is your character. If you want to continue working on your avatar's appearance outside of class, you are welcome to do that. But at this point, Rhetorical Peaks is made up of citizens that just look crazy. [students laugh] They have boxes on their heads, they have picture frames going through them, they are wearing mismatched clothes, and that's the way Rhetorical Peaks is at this point. [students laugh]

Both the students and Michael had a sense of humor about some of their misadventures modifying the avatars, and that mood set the tone for their time in *SL*. However, even during the avatar-building stage, students were already showing confusion about how to "play" *Rhetorical Peaks* in *SL*. As one student asked, "How do you play the game? What's the point of the game?" Michael's response was, "We will talk about that more when we actually start playing the game." This early confusion would continue throughout the role-playing experience for the students.

To prepare for the role-playing, Michael established these two rules: stay in character and help the town establish a sense of trust. Michael himself was not quite sure how the second rule would work out:

> This is a strange rule, isn't it. How do you follow that rule? You're going to have to figure it out, you're going to have to make it up as you go along. That's part of the challenge. As you're following these two rules, I want you to be thinking about the range of possibilities that that can take. What are the range of things you can do within this space to try to restore a sense of trust? It's pretty open-ended, it's pretty vague. The challenge is to make it more definite, to figure out what you can do in character. I realize it's weird; [student laughter] I want us to give it a try and see what happens. That is the goal: to explore what happens.

So Michael was clearly aware that the guidelines he had provided were vague. However, he also knew this was necessary for him to test his ideas about an open-ended game. He hoped their time in *SL* would give the students another valuable experience of a digital environment, but he also wanted to see how *Rhetorical Peaks* might play out there as

well. For their part, the students generally seemed to trust Michael and be willing to go along with the experimental assignment.

After receiving Michael's instructions, the students entered the Rhetorical Peaks space in *SL*, and tried to role-play. Their conversations in *SL* were not recorded, but in both subsequent in-class discussions and written reflections about the experience the students generally describe having great difficultly role-playing. One explained that they had "the same conversations over and over." Another explained that, "While one of the rules of the game was to stay in character, because there were so many of us and given the strangeness of the environment, it was hard to maintain the original goals and values of our character." Another student had recommendations for future use of *SL* for Michael, explaining that this difficultly adhering to the "original goals and values of our character" was caused by a lack of structure and boundaries. He said, "it may be good to have an instructor or TA's playing the role of Rhetorical Peaks citizens so that students would have somebody to role-play alongside (besides other students) who would be moderating them."

During an in-class discussion of the role-playing experience, it became clear that despite Michael's efforts to be very clear about their goals during role-playing, the students were confused. Some wondered whether they were supposed to solve the murder. They also explained that the goals of establishing a sense of trust in the town didn't make sense in practice since they were the only members of the town. One student said that, "We're the only ones in the town, we make up the town, and all of our goals is to be able to trust each other, so we should be able to do that." Another student agreed,

saying that, "It's hard because we already trust each other, and we're in class together. If we didn't know each other in *SL,* it would make more sense." As the student explained above, it seems that the role-playing fell apart because there was no structure in place for them to respond to in character.

At this point, Michael encouraged the students to begin thinking of themselves as game designers, rather than players, and asked them what might help them stay invested in Rhetorical Peaks. They discussed trying to solve the mystery and creating an origin story that would explain their connection to Rhetorical Peaks, but they ultimately decided on building in the space. As one student commented during the discussion, "We're supposed to be a community, so if we could build things in *SL*, houses, it would help us connect to the community…It doesn't feel like Rhetorical Peaks is my character's home without having some connection to the space." This student's diagnosis of the situation is very similar to Sanchez's best practices for teaching in *SL* discussed in Chapter 2, which recommended providing community-building activities for students early on in the *SL* experience (3). Thus, they decided to try building, even though they didn't really know if they could.

After the decision was made, the entire class entered *SL* and began finding free objects to build with. Within 10 minutes, the students had filled the space with all sorts of structures, from giant bunny rabbits to entire buildings. This portion of their experience was quite chaotic, and the students truly played with what they could do in *SL*. One student had a cabin stuck to their avatar, another student turned their avatar into a dragon, and another figured out how to float boxes in the air. Many of the students

were clearly enthralled. One exclaimed, "I have a platform in the air, this is pretty awesome! This is going to be the sweetest house ever!" Another, illustrating the chaotic feel to this episode, said, "I got a box full of stuff, and I'm just putting it out!" There was some level of conflict in that students were literally building on top of each other: "A big old building just dropped in front of me! I think you just killed a whole bunch of people!" To help focus the chaos and enthusiasm, Michael made a point at the end of the class to reorient them towards a goal, "The challenge is changing all of this into something that allows us to make the space better, put it towards some productive use."

The next class period aimed to focus the students' experiments with building, and the students and Michael decided that they should break up into smaller groups and design and build memorials for Lisa (the murder victim from the original *Rhetorical Peaks* game). They felt that working in smaller groups would improve their experience since role-playing as a class had been largely unsuccessful. The rest of their time in *SL* was spent designing and building these memorials, and a few students began learning to use *SL*'s three-dimensional modeling and scripting tools on their own. Many of the students used the tutorials provided by *SL* to learn these skills. Others relied entirely on the placement of objects to build their memorial.

Although many of the students were enthusiastic about the assignment, some were more involved than others, and it seemed that this was based on the students' skill-level and comfort with computers and digital technologies. I observed that in some groups, 1 or 2 of the students in a group of 3 ended up doing most of the work, with some students acting disengaged with the activities of their group members. The following images are

of some of the memorials that the students created, as well as of students building in the *Rhetorical Peaks* space. These memorials, along with the role-playing, comprise the work that students produced while in *SL*.

Fig. 7.1. Student avatars in the floating memorial park made by one group of students.

Fig. 7.2. Student avatars working on their memorial sculpture. Other student-made objects can be seen in the background.

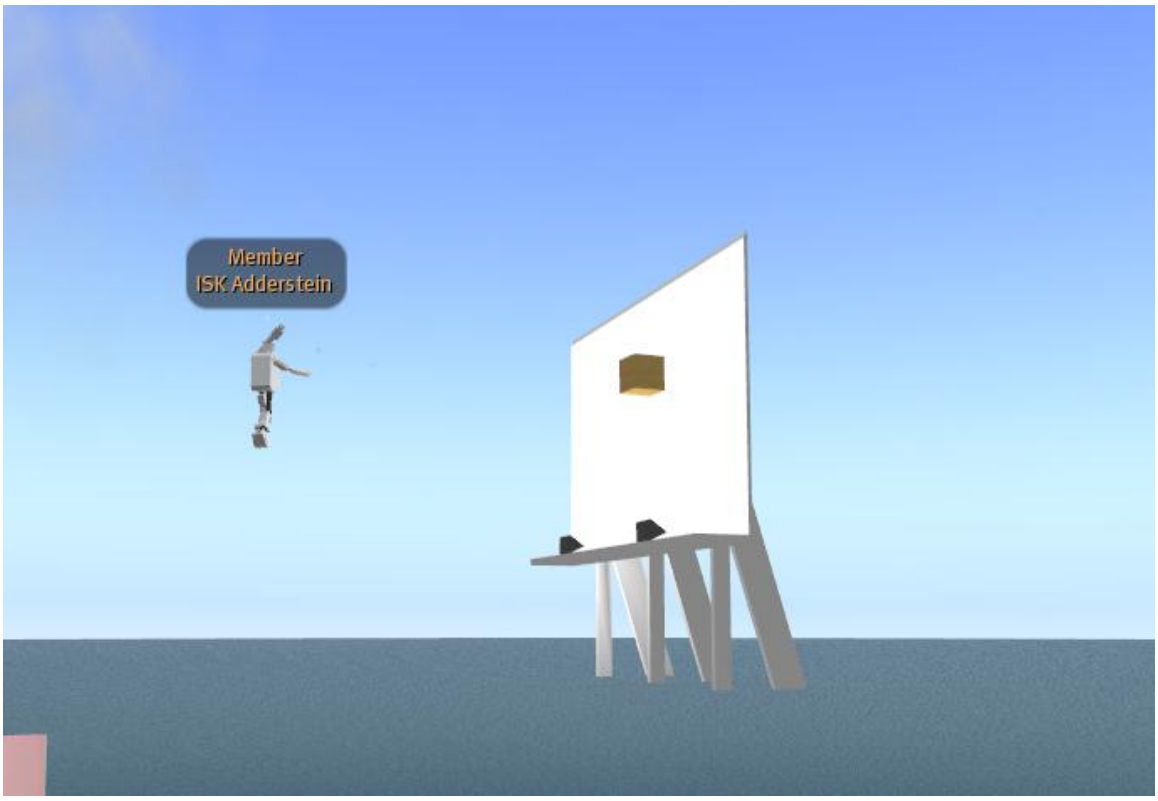

Fig. 7.3. A student's avatar building a floating billboard as a memorial to Lisa.

These memorials are quite impressive since students were given no instruction on how to build in *SL*. In addition, from the beginning Michael acknowledged that they might not be able to complete the memorials since this assignment was finalized quite late in the semester, and it was unclear how involved completing the memorials might prove to be. Under these circumstances, the students' work is impressive and gives an indication of what students might be able to produce when given more time and preparation.

My observations indicate that students did have a playful experience during much of their *SL* experience, and it was primarily through play that students learned about *SL*

and what they could do with it. It seems that students engaged in two forms of play defined by play theorist Stuart Brown, that I discussed in Chapter 1. One form is object play or the manipulation of objects for fun. Students engaged in this type of play as they begin experimenting with building, and through that play and experimentation they learned how to build and how objects functioned in *SL*. The same is true for their experience with avatar modification and for how they learned to modify their avatars and maneuver and interact in *SL*.

Another form of play that they engaged in was social play, and in this case it was specifically friendship/bonding play. Although I noted the enthusiasm, jokes, and advice that was exchanged between students during my observations, the real evidence of this sort of play came from the written reflections that Michael assigned the students after they had finished their work in *SL*. In those reflections students repeatedly explained that *SL* was valuable as a bonding experience. One student said, "I also enjoyed a lot of our time in Second Life; it allowed for bonding time with other classmates as well as allows us to set goals and find different ways to attain them." Another student explained,

> Being part of a virtual community, Rhetorical Peaks, has broken every feeling of isolation I might have had at the beginning of the semester because I'm a foreign exchange student. It gave me a sense of collaboration and allowed me to evaluate my work comparing it to that of the others. Second Life was a great experience that created some bounds between me and other students who helped me improve my approach of Second Life.

And another, “Another thing that I loved was Second Life, with its glitches and all! I thought it was so cool when we just all sat and….attempted…to play; we got some pretty good laughs!” These are remarkable statements, but it should be noted that these reflections were assigned by their instructor and thus may have been influenced by motivation to impress him. However, similar statements were made in the written survey responses, which the student knew would not be seen by their instructor and could not impact their grade.

The following points summarize the major results of analysis of the observations, student work, and student reflections:

- The observations indicate that there were moments of both fun and confusion during the *SL* activities. Although some students seemed to enjoy the experience, others seemed disengaged and expressed confusion over the purpose of the assignment.
- Students seemed to experience two different types of play (social play and object play) in *SL* that helped them learn to use the space and to build community.
- The student’s work produced during the *SL* sessions included their avatars and their building projects. Students successfully learned how to modify their avatars, although the observations show that they frequently ran into problems doing so. Students also learned to build through trial and error, largely on their own, and thus the memorials that they produced are quite impressive considering this lack of formal instruction. Overall, students were able to

successfully complete these activities in *SL* despite some obstacles and mis-haps.

Comparing the results of the observations and student work to Michael's purposes for the assignment shows the experimental open-ended game was somewhat successful in that the students were able to agree on and execute a goal for their *SL* activities. However, it remains to be seen whether the rhetoric-related goals were achieved. These observations also seem to indicate that students enjoyed learning to use and experimenting with *SL*, but the survey response will provide detailed information about their experience.

SURVEY RESULTS

In this case, the survey results help to confirm or disconfirm my impressions that were based on the in-class observations. As with the previous chapters, first I will discuss the students' written responses to the qualitative questions. In the qualitative section I will discuss the qualitative responses as a whole, without considering the question they were responding to. My purpose here is to point out the major patterns that appeared in the students' written responses. Later, as I discuss the quantitative results and I will compare the quantitative and qualitative results for each question, touching on the qualitative patterns again. In this case, 12 students agreed to participate in the study and responded to the survey, which is important to keep in mind when considering the survey data.

Qualitative Results

The initial open coding of the survey's qualitative responses yielded 33 different codes that were reduced and condensed down to 5 codes, which represent the 5 major patterns in the data. The patterns were labeled play, unintuitive, goals, unstructured, and unrelated. Of the 82 total qualitative responses, 6 could not be categorized, and most of the responses fell into 2 or more patterns (the uncategorizeable responses are shown in Appendix G). Table 3.1 provides an overview of the patterns, including their frequency within the dataset, how many of the surveys they appeared in, and any major sub-codes of the category. The quotations of the students' written responses have been minimally edited for clarity.

Table 7.1. Major Patterns Found in the Written Survey Responses

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Play	29/10	Fun, interesting, creative, enjoy	Responses that use play-related concepts to describe the experience of using *SL*.
Unintuitive	24/11	Unintuitive, frustrating, technical, difficult, learning curve, tedious, dated	Responses that describe *SL*'s interface as dated, unintuitive, and full of technical problems.

Pattern	Frequency/No. of Students*	Sub-Codes	Description
Goals	23/10	Writing, rhetoric, persuasion, digital environment, social, collaboration, community, potential	Responses that discuss the relevance of the *SL* activities to the learning goals of the course.
Unstructured	15/10	Confusing, unclear	Descriptions of the lack of structure to the *SL* activities and environment.
Unrelated	5/3	Unhelpful	Responses that describe the *SL* activities as unrelated to the learning goals of the course.

*The first number indicates the number of times this category appeared in the entire data set; the second number indicates the number of surveys the category appeared in out of 12 total surveys.

Play. As with the previous cases, the responses were searched for play-related terms and concepts such as enjoy, fun, creative, interesting, experimental, and so on. Responses were only labeled with the play pattern if they included a clear reference to play. This pattern appeared most frequently in the written responses, and students most frequently described the experience as fun or enjoyable. For example, one student said, "I absolutely loved using SL as a part of my course. I wouldn't mind if professors used it more often than not." Other students described specific aspects of their *SL* experience as playful, like this student who describes role-playing: "It was fun role playing Steven Colbear who was role playing Darth Vader. Two of my favorite things combined into one

character!" Another student preferred building, saying that, "Really liked this part [building] it was the most engaging. It was a little hard but that was to be expected." This response actually exhibits two characteristics of play as defined by Csikszentmihalyi, because the student described the experience as both engaging and challenging (36). Many of the students enjoyed building, and one student described getting a feeling of accomplishment from building: "When building something it made me feel preoccupied so I felt like I was actually accomplishing something important." This student also experienced two of the basic characteristics of play as defined by Csikszentmihalyi, pure involvement and intrinsic satisfaction (42). Other responses that reference play concepts often describe the experience as humorous. As one student described,

> Designing and Building things were the highlight of our Second Life experience. Looking up and seeing that someone had put Lisa's name in red blocks in the sky was very interesting and took some creative thinking. Bringing in props and other interesting, if not a little useless, items was the part that had me the most entertained. The randomness of the items in our town had me laughing out loud at one point.

And in terms of role-playing, another student said, "Role Playing as my desired avatar was harder than I imagined it would be, but actually playing the game was pretty interesting. I was highly entertained by all of the other characters actions, more so than by my own. There was quite a bit of humor put into role-playing as our characters (or at least trying to)." Responses like these make it clear that many students had playful, enjoyable experiences during their activities in *SL*, where they experimented with their

surroundings and their interactions in an uninhibited way that Brown would recognize as play (17).

Finally, the openness of *SL* was an important and enjoyable aspect of the experience for 50% of the students (this sub-code appeared in 6 surveys and 10 individual responses). Responses labeled "open" described enjoying exploring *SL* and playing with the range of options provided for building or avatar modification. For example, one student explains that they enjoyed all of the options for avatar customization provided for free by other users in *SL*: "It almost makes me feel like I'm in 2001 or something, but it's still a powerful system that presents you with lots of options. Messing around with stuff from freebie heaven was especially fun!" Other students enjoyed exploring *SL* most, as this student explains, "The best part about acting as my character was exploring all of the different things I could do in the world of Second Life." Other students echoed this sentiment saying, "it was especially fun to explore all that Second Life has to offer," and "it was interesting what I encountered when I explored on my own." Clearly, students enjoyed the openness of *SL*, but these activities also had nothing to do with their assigned activities, and students clearly considered this "messing around." These responses illustrate that students felt comfortable exploring and experimenting in *SL*, two important aspects of play that Brown, Csikszentmihalyi, Gee recognize. And although several students describe these activities as "messing around" these explorations are how students learned how to use *SL*, how they learned to build, move, and interact in *SL*.

Finally, there was one study participant who basically began playing his own game and modified his avatar to fit that game:

> Our Role Playing experience in Second Life fell apart very quickly in an official capacity. I did actually have some fun playing a different role I established myself (the chaotic, evil rabbit that dropped anvils on people's heads, and the man with the house stuck on his head jumping around everywhere) but that did not have a terribly large amount to do with the course.

At least one other student, who did not participate in the study, joined in this game, and in the in-class observations I observed the two of them throw things at each other's avatars in *SL*. The *SL* space may have seemed video game-like to them, and they began behaving in ways that were similar to how they behaved in those video games (e.g. attacking each other with various objects).

Unintuitive. Although the unintuitive pattern appeared in fewer individual responses than the play pattern (24 as opposed to 29), it appeared in more surveys (11 as opposed to 10). This pattern covers a wide range of responses that described criticisms of the *SL* interface, general frustration, technical problems students ran into when building and modifying their avatars, and descriptions of the learning curve for *SL*. For some students, the learning curve was not a major problem:

> It was generally pretty easy to use Second Life once you got the hang of the controls. Building/editing/designing was a bit more complex but only took a bit of effort to try to learn how to do it. Editing appearances was kind of frustrating, and I in particular couldn't get the grey hair I wanted my avatar to have. Also, she looked about 60 years younger than I wanted her to.

A lot of students described similar annoyance with being unable to control the details of their avatars, like the grey hair issues mentioned here. However, other students were much more critical, and disliked the overall *SL* experience:

> The interface is clunky and not very convenient in pretty much every way. Role playing did not really occur in the game and there was no way to really facilitate it in this context. The movement controls were unconventional and different from those in most other games (i.e. WASD keys). Also as I mentioned earlier the process of avatar creation could use some work.

Several students made comments like these about the interface, which they described as dated or unintuitive. In addition, many students described the experience as frustrating. For example, "Designing was okay. Not the greatest thing in the world. It was frustrating when space would run out and it was VERY time consuming." And another said, "Building in Second Life was frustrated by the poor interface." For many students, the *SL* experience was riddled with technical problems, "Modifying, building, and designing were more trouble because it seemed like there were glitches within SL that didn't help me out. Such as having to go out and find textures, not being able to build on land, outfit faux pas, etc." Responses like these are consistent with the significant technical problems reported by Bump about his class's *SL* experience. And although *SL* has made improvements in the intervening years (Michael's class seems to have not experienced total site shut-downs as Bump's did), clearly considerable technical issues still remain. These responses also illustrate that the students seem to have found *SL* more frustrating than I had concluded based on my observations.

Goals. Responses that discussed how the *SL* activities supported the learning goals of the course were labeled with the goals pattern. The students had considerable trouble connecting their *SL* activities with the traditional goals of a rhetoric course (rhetoric and writing) and there was only 1 student who was able to do so. As she explained, she used an expanded sense of rhetoric and writing to make that connection: "Learning about Second Life and other digital environments definitely helped further my understanding of rhetoric and writing. It was interesting to think of them as unique writing and rhetoric platforms and never before have I considered the implications of the 'way' you use different digital environments." And in another response she said,

> If we consider rhetoric to be able to take other forms rather than just writing words, then Second Life was definitely a good platform for understanding a different take on the definition of 'rhetoric.' We, in a sense, had to 'write' our identities by essentially acting out and choosing how to 'live' in Second Life.

Another student explained that he learned a lot about "content creation" and another said, "Helps you understand how to make someone do something in digital world." These responses seem to be referencing an understanding of how rhetoric and writing works in a digital environment similar to the more detailed responses above. However, neither of these students explained further, so it is difficult to tell.

Students were generally able to appreciate *SL* as a different digital environment, which was useful in that it provided another example for them to compare to the other digital environments studied in the course. As one student said, "I thought editing wiki's were certainly the most useful in terms of rhetoric and writing, but I still got a lot out of

second life that I couldn't get from other environments." Many students described *SL* in this way: useful because of its uniqueness. Another student said more generally, "I think all digital environments have something to teach about writing and rhetoric. Although some were better than others, all of them taught me a little something." However, as these responses illustrate, none of the students explained exactly what that comparison taught them.

In addition, many students described learning from their social interactions in *SL*. For several of the students the social and collaborative aspects of their activities is where they learned the most. As one said, "I feel like I learned a lot more about content creation and social gaming in second life than I did about rhetoric." Another explained how the experience illustrated the complexity of community formation, "The only thing I feel I really realized is that as a community I formed, it has to define a seemingly infinite set of rules." Other students described learning about persuasion from the group work that they did, and responses like these seem to indicate that the students are describing using rhetoric in practice, one of Michael's main goals for the activity. However, none of the students were clearly able to describe their social and collaborative experiences in *SL* in these terms.

The sub-code of the goals pattern that was mentioned by the most students (6 of 12) was that *SL* had "potential." In spite of their frustrations and instead of condemning *SL*, 50% of the participants felt that it showed potential as a learning environment. As some of the responses illustrate, the student's ideas about *SL*'s potential were grounded in James Paul Gee's theories of the connection between experiential learning and games,

which the students had read about earlier in the course. As one student explained, "I feel there was a lot to learn from second life but after more reflection and thinking about what we did. I think SL has more potential for Critical Learning that any of the other environments. In terms of actual writing it wasn't much help and the other environments were strong there. It was the most interesting though." Another was a bit more skeptical, "I was unsure about learning in second life at first. Almost felt a little creepy. After reading Gee, thinking about my own game experiences and then actually playing SL I think there is some potential but it may be hard to realize." Several other similar responses discussed that *SL* had potential, but not without significant reworking. Another student's response illustrates their awareness of the experimental nature of Michael's use of *SL*:

> My responses might make it sound like I don't think second life is a good tool for rhetoric classes, but I don't think that's true. I think what we did in this class is a good start. I got some good stuff from the experience even if my rhetorical horizons weren't greatly expanded. With a little tweaking and more experimentation I think this can really bloom into an excellent teaching tool.

The students' comments illustrate that they were aware that it was possible to do much more with *SL* than they had experienced in this course. Another response echoed this sentiment: "Second Life is fun in a way, and I am sure that there is more to learn about it. Trying to use it for a different purpose rather than living out our characters we designed […] would be another interesting view of the game. I actually am hoping that I get to use it again in another class."

It is important to note that although in terms of numbers the goals pattern appeared almost as frequently as the unintuitive and play patterns, this is because I categorized the "potential" sub-code under the goals pattern. Adding these "potential" responses to the goals pattern boosted its numbers even though appreciation of *SL*'s potential was not a stated goal of the assignment. However, this pattern seemed the most appropriate place to categorize these types of responses.

Unstructured. All of the written responses that were categorized in the unstructured pattern were discussing the students' experience role-playing in *SL*, and it is important to note that when students describe *SL* as unstructured, they are actually noting that the assignment was unstructured. With few exceptions, students agreed that they were unable to role-play or had significant difficulty doing so because of a lack of structure to the role-playing scenario. For example, one student said, "It would have been much more fun if there was more of a way to act as our characters. With nothing happening it was hard." The students themselves had to keep the role-playing scenario going, and it seems that the goal of establishing trust in the town was not sufficient to provide momentum and direction for the students. Another student said, "There was no clear objective, this made it confusing at times." And another, "Role playing was difficult because it wasn't very structured. The role playing I'm used to in video games is usually a lot more structured than that. I would note however that more structure would have taken away from the creative freedom we had while doing so." This response illustrates that some students did see an up-side to the lack of structure as well as how some students conflated *SL* the immersive environment with *Rhetorical Peaks*, the open-

ended video game. Another more positive response, which was also quoted in the play section above, explains that while the role-playing was largely unsuccessful, some students still enjoyed their attempt to do so: "I was highly entertained by all of the other characters actions, more so than by my own. There was quite a bit of humor put into role-playing as our characters (or at least trying to)."

The students' description of their experience role-playing in *SL* as unstructured is not surprising in light of Michael's acknowledgement quoted in the observations section that the scenario he had set up was "weird" and that the activity was experimental. In addition, since 8 of the study participants had played role-playing games, and 4 played them often, these students probably determined very quickly based on their previous experiences that the *Rhetorical Peaks* scenario in *SL* was not sufficient to support role-playing. This response illustrates this perspective: "Second life is a lot different from games I usually play. It's a bit too unstructured, I enjoy games that have specific goals to accomplish or challenges to overcome. That being said, I still enjoyed tooling around in second life. It was fun to explore and see what I could come up with using my creativity." These final comments, that the student enjoyed "tooling around" and "see[ing] what I could come up with using my creativity," illustrate how *SL* does foster experimentation without concern for the results, which as I have noted, are important components of play. However, this pattern illustrates how important structure is for making that experimentation productive and valuable.

Unrelated. There were three students (or 25% of the participants) who clearly found their *SL* experience unrelated to the learning goals of the course, and their

responses were labeled "unrelated." One student did not see a connection between the class's *SL* activities and writing, and explained that, "I don't think SL contributed much to my understanding of writing in digital environments in a practical way like Twitter or Wikis did. If it was some other serious MMO, perhaps that could have helped with understanding digital interactions, but I dislike the artificial nature of Second Life especially in the way we used it." The other two students did not see how the experience related to rhetoric. One explained, "Second Life did not assist me in any real capacity in expanding my understanding of rhetoric. Communication broke down very quickly and the predominant form of expression became the placing of objects, which did not help any of those specific ideas." Another said simply, "I feel like even with drastic changes that it would not be able to affect anyone's understanding of rhetoric." These statements contrast sharply with the responses of the student quoted in the discussion of the goals pattern that explained how *SL* was relevant to an expanded sense of rhetoric and writing, or students who discussed the potential of *SL* as a learning environment. Clearly not all of the students were able to connect their *SL* activities to more traditional understanding of rhetoric and writing, and Michael was well aware of this short-coming of the assignment. Although Michael was careful to devote both class time and several short writing assignments to having the class reflect on their *SL* experience, he was aware that he did not quite achieve what he wanted. As he said in his reflection,

> I wanted students to produce texts in digital writing environments and to reflect on the similarities and differences between this sort of writing and more traditional writing assignments. (I think I had mixed results here [….] I was very

impressed with several students' ability to design avatars in Second Life that matched their characters – some students really nailed it. I was impressed with their ability to build things in Second Life and to program scripts. In other words, they really were able to write and develop the game in interesting ways. On the other hand, I don't think they completely got to the point where they really saw this work as writing. So, I was impressed with the work that they did, but I wish we had done further reflecting on this work as *writing*.)

Although the responses from the goals and unrelated pattern indicate that Michael's purpose for this assignment was only partially successful, all of the students appreciated *SL* as a learning experience in some sense, whether that was as a digital environment, a social experience, or as different way of writing or using rhetoric. It is notable that none of the students questioned Michael's inclusion of *SL* in the course or described the experience as unnecessary or useless.

Quantitative Results

As with the previous chapters, this section has been broken up into sub-sections based on each research question. As I discuss the results of each quantitative question, I will also look at which patterns appeared most often in the written responses to the paired qualitative question. My objective is to compare the qualitative and quantitative data, noting consistencies and discrepancies.

The Experience

As with all of the other cases, the students were asked to describe their experience using *SL*. However, in this case, the students engaged in 3 very different types of activities in *SL* (avatar modification, role-playing, and building), and so three different questions were used to better understand their experience of each of these activities. The question about avatar modification read, "Which options best describe your experience of creating an avatar in *Second Life*? Choose all that apply," and the other questions were worded similarly. As in the other cases, students rated a series of descriptors, this time on a 4-point Likert-type scale from 1-4 (Not at all/Very). As explained in Chapter 3, the *SL* survey results were collected first, and after receiving feedback on the surveys, the questions were modified to use the 5-point scale seen in the other cases. The descriptors offered were also slightly different than those used in the previous surveys for the same reason; they were enjoyable, interesting, creative, difficult, frustrating, confusing, boring. Difficult was not offered in the avatar modification question and creative was replaced by exciting; these differences are due to researcher error in editing the survey. I will discuss the student's responses to these questions in the order that they appeared in the survey, beginning with the avatar modification question. The results for this question are shown below in Figure 7.4.

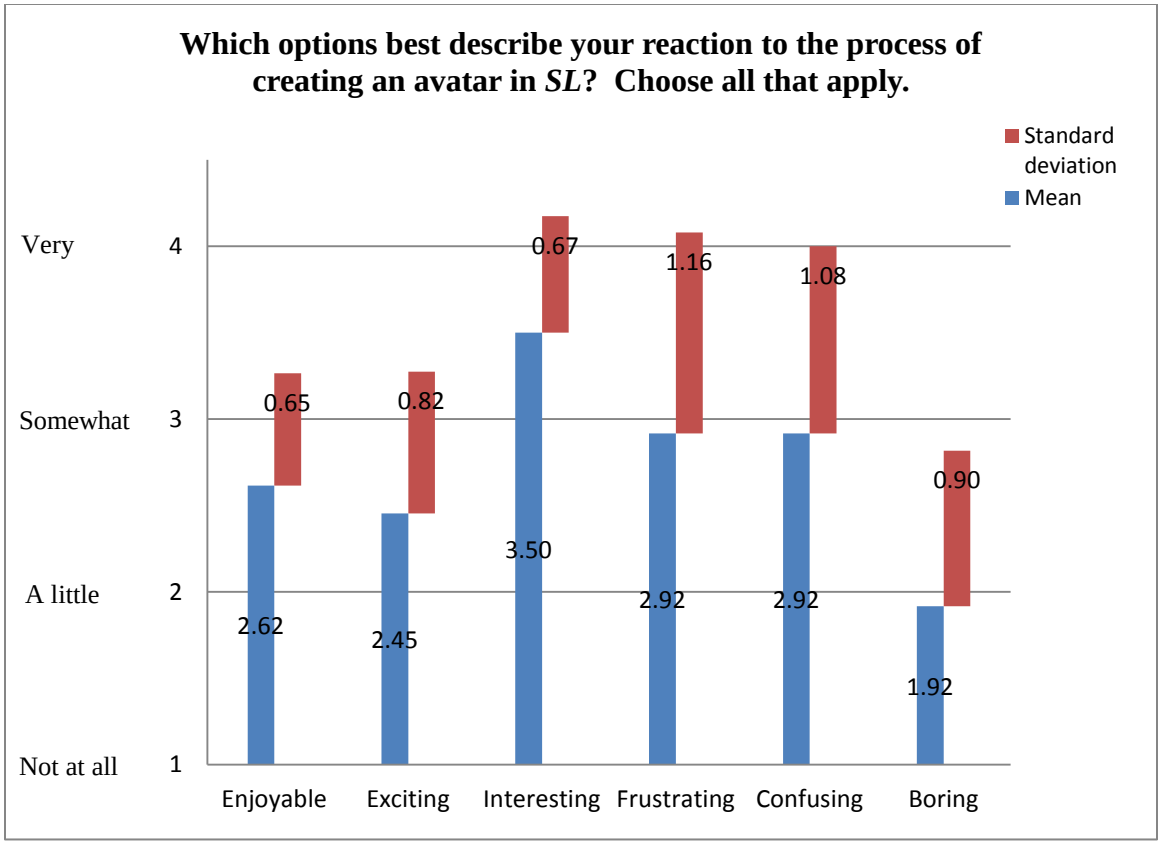

Fig. 7.4. Student responses about the experience of creating an avatar.

As the figure shows, the mean student responses found avatar modification to be between somewhat and very interesting, and somewhat fustrating and confusing. They found it to be between a little and somewhat enjoyable and exciting, and they only found it to be a little boring. The standard deviations for these last three descriptors were quite high, close to or above 1, indicating that there was a wider range of responses. These results are consistent with the patterns that appeared in the written responses students gave when they were asked to explain their answers. The "unintuitive" pattern appeared in 10 of the 12 responses, and the "play" pattern appeared in 7. This correlates well with

the quantitative results in that students seem to have experienced considerable difficulty and frustration modifying their avatars, but also found the experience to be somewhat or a little enjoyable, exciting, and interesting. This response illustrates the upsides and downsides of the experience: "When making the avatar Identity it was fun trying to make the clothes, but it was so frustrating trying to make him look like what I wanted him to look. So, I gave up on it a little bit." The students were excited by the prospect of modifying their avatars to look like the characters they had designed, but the unintuitive avatar modification process tempered that enthusiasm with frustration and confusion.

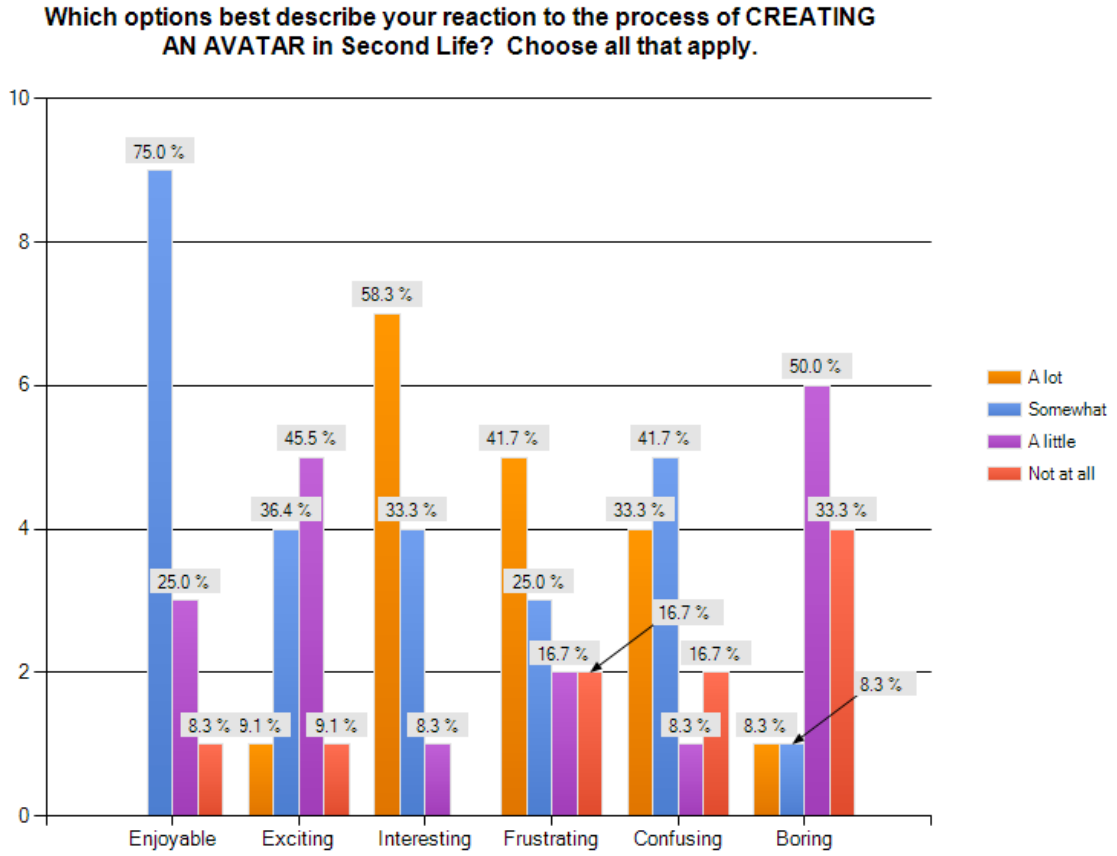

Fig. 7.5. Detailed results for the avatar modification experience question in percentages.

Next students were asked about their experience role-playing. Figure 7.6 shows the results for this question in means and standard deviations.

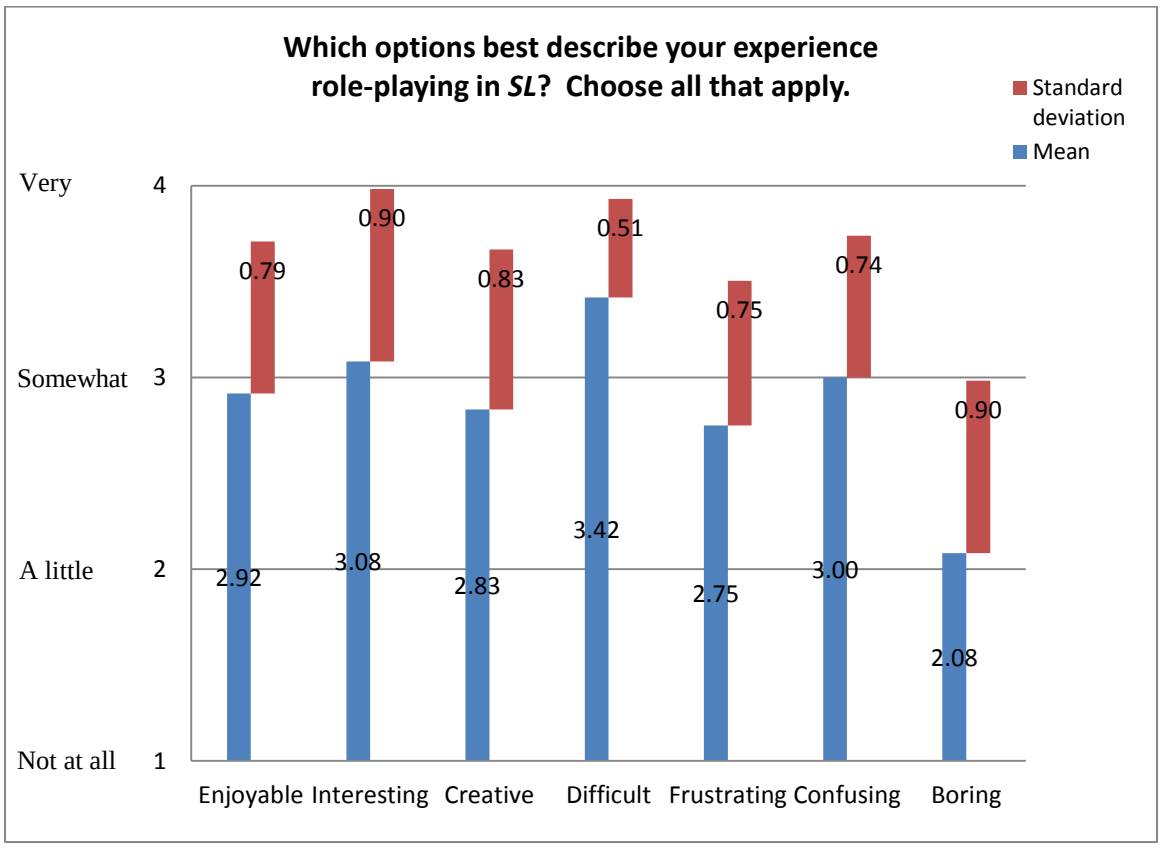

Fig. 7.6. Results for the role-playing experience question in means and standard deviations.

As the chart shows, the students rated all of the descriptors much higher than in the avatar modification question. With mean responses at around 3, the students described the experience as somewhat enjoyable, interesting and creative. However, students clearly had a hard time role-playing, rating it between somewhat and very

difficult at 3.42. Students also found role-playing somewhat frustrating (2.75) and confusing (3), and only a little boring (2.08). Again, the standard deviations are a bit high for some of these descriptors (interesting, creative, and boring), but overall it seems that while students had some trouble with role-playing, they also agreed that the experience was enjoyable and interesting to some extent. The written responses, where students explained their answers, however, show that the majority (8 of 12 responses) of students had trouble with role-playing and found it frustrating or confusing. They made comments like, "It would have been much more fun if there was more of a way to act as our characters. With nothing happening it was hard." And many students explained that role-playing did not really work because the scenario provided no structure and was too difficult. It is difficult to determine the reason for this discrepancy between the quantitative and qualitative results, but a few of the responses indicate that students enjoyed *trying* to role-play, but that very little role-playing actually happened, which would explain their negative comments. For example, one student said, "Role Playing as my desired avatar was harder than I imagined it would be, but actually playing the game was pretty interesting. I was highly entertained by all of the other characters actions, more so than by my own. There was quite a bit of humor put into role-playing as our characters (or at least trying to)." Another more critical response said, "It was new and yes, I was curious but overall, it wasn't as fun as I thought it would be." This latter response seems to show that the student *anticipated* that the experience would be fun, but did not enjoy the experience in actuality. The detailed results for this question are shown in Figure 7.7 below.

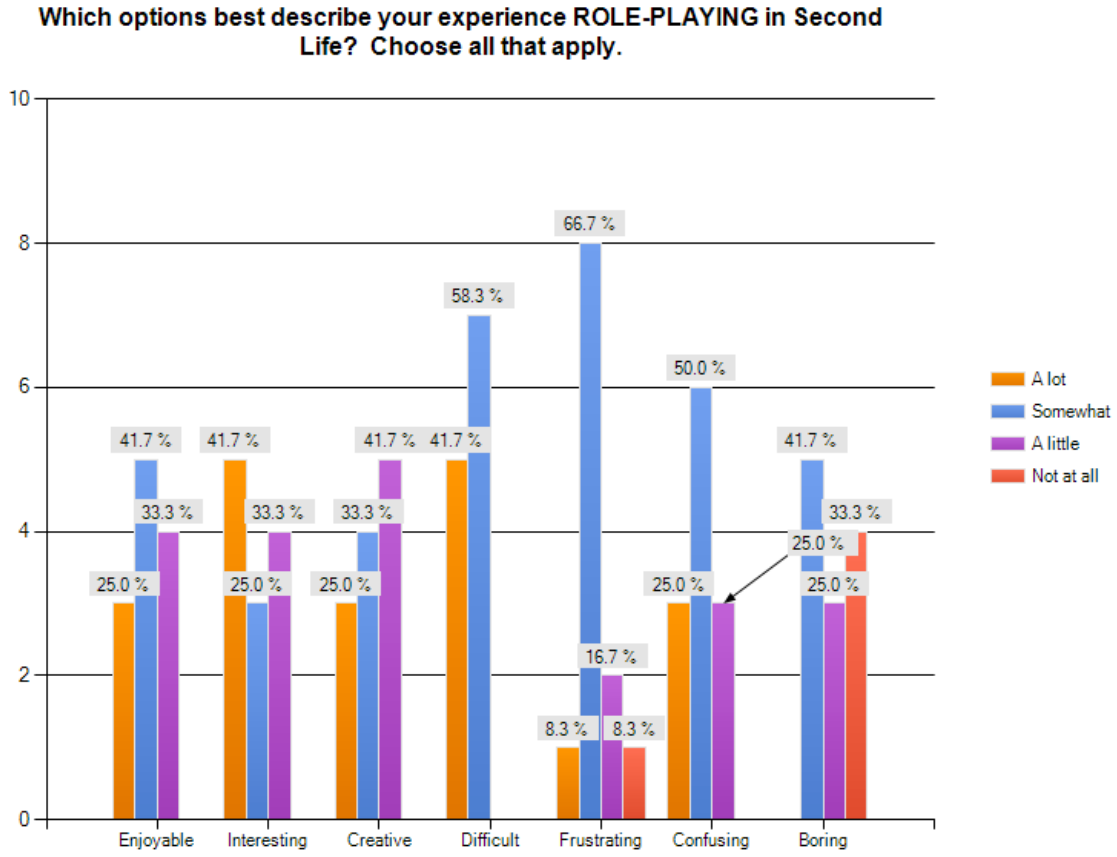

Fig. 7.7. Detailed results for the role-playing experience question in percentages.

The results for the question that asked about designing and building are shown below in Figure 7.8.

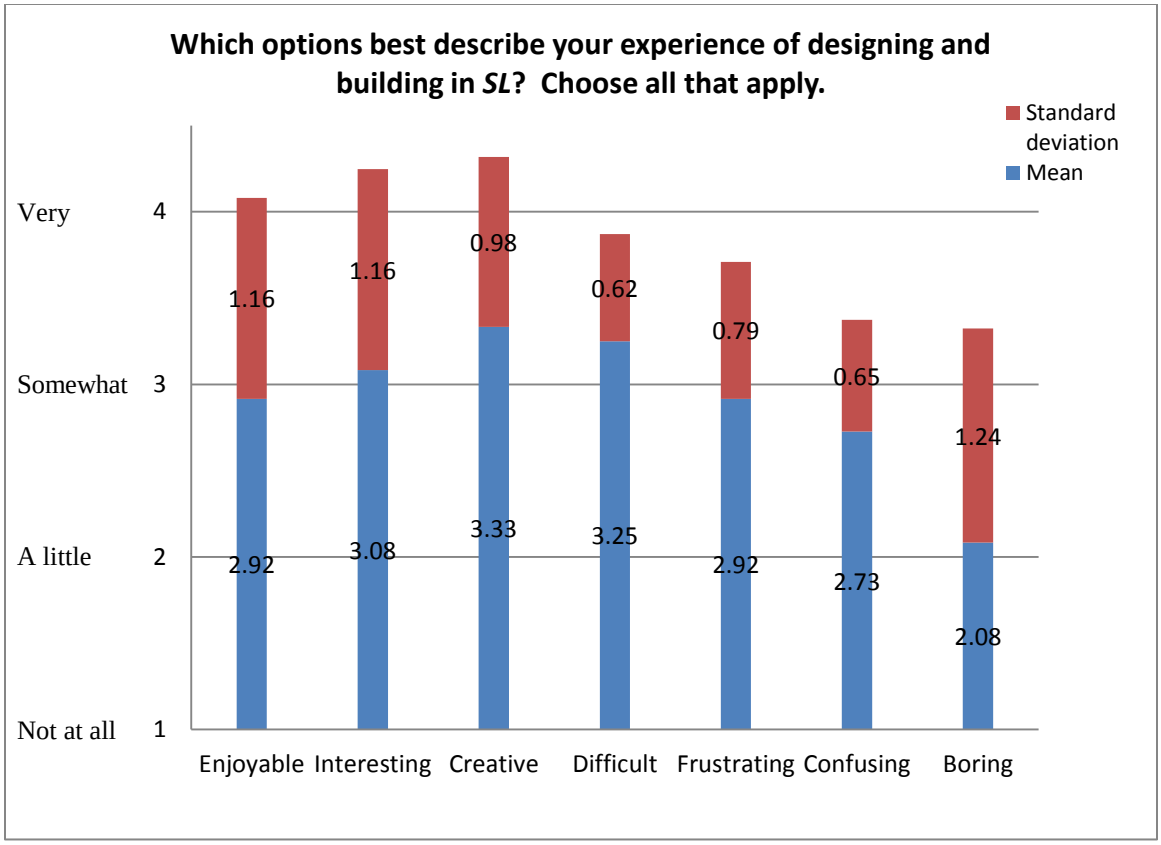

Fig. 7.8. The designing and building experience question results in means and standard deviations.

Here, the students found designing and building somewhat enjoyable, interesting, and creative. But the standard deviations for all of these descriptors are quite high, at or above 1, indicating that there were a few students who responded "Very" and "Not at all." The students also described the experience as somewhat difficult, frustrating, and confusing. And in contrast, all of these negative descriptors had significantly lower standard deviations, showing that there was more consensus amongst the responders. Finally, students described the experience as a little boring.

When the students explained their answers, 7 of the 11 responses related to the unstructured or unintuitive patterns, and 5 related to the play pattern. But overall, half of the responses described the experience and half described it as negative. For example, many of the students who had criticisms actually had a positive experience: “Really liked this part it was the most engaging. It was a little hard but that was to be expected.” In contrast, some students were highly critical of the experience, for example, “Building in Second Life was frustrated by the poor interface. While I did construct a major object (the Lisa sign) it wasn't particularly exciting or challenging, since I made it out of copy pasted blocks.” Another said, “again, some sort of tutorial beforehand may have made this experience less confusing.” The detailed results for this question are shown below in Figure 7.9.

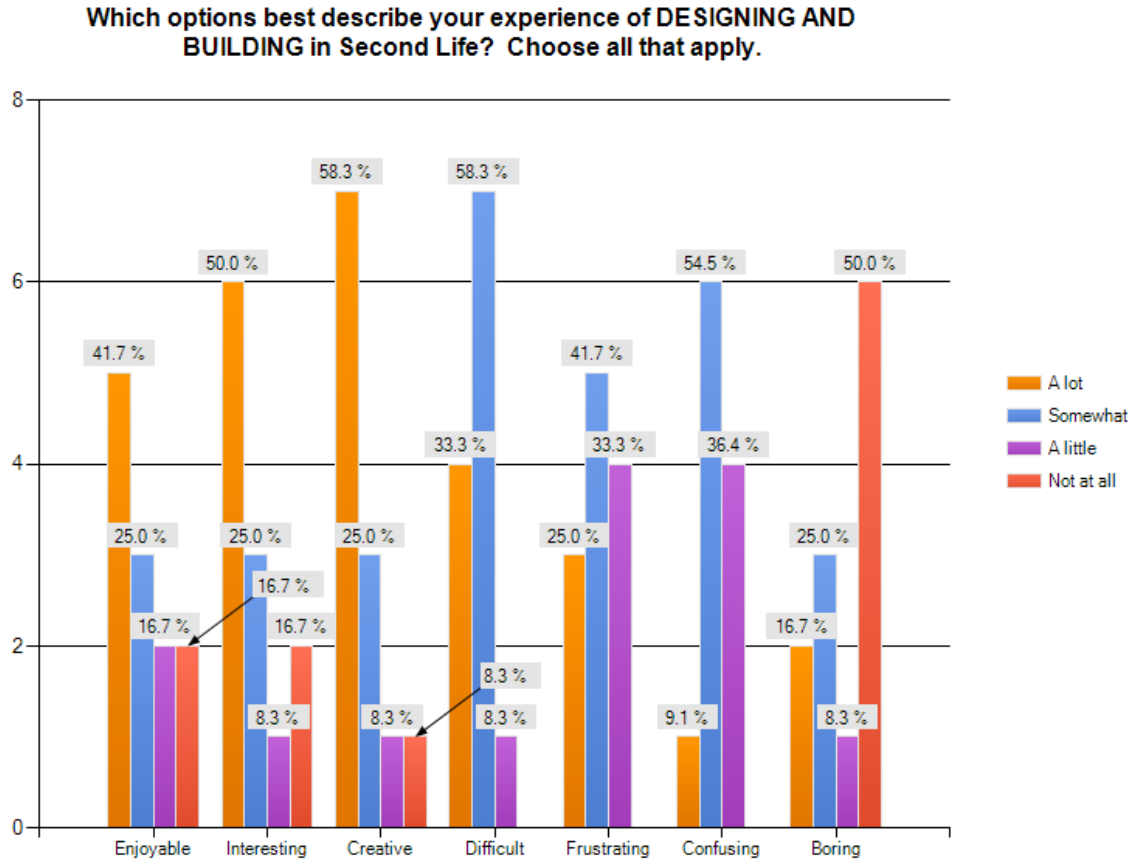

Fig. 7.9. Detailed results for the designing and building question in percentages.

In all of the previous cases, the results for the experience question showed that students generally agreed with all of the positive descriptors and disagreed with the negative descriptors. Here, the mean responses are similar across almost all of the descriptors. When the results of all three of the experience questions are compared, the students do describe these activities positively (the majority of the students described all

three activities as "Very" or "Somewhat" enjoyable, interesting, and creative[10]). However, the majority of students also described these experience as "Very" or "Somewhat" frustrating, confusing, and difficult. Based on the qualitative responses, most of their problems seem to have been caused by the interface (and the assignment's lack of structure for role-playing). The responses might have been more positive without these usability issues.

The survey also asked the students to rate their various activities in *SL* in order to determine which aspects of the experience were most and least enjoyable, and which ones caused students the most and least trouble. The first question asked students, "Rate each *SL* activity for how much trouble or difficulty it caused you;" the second asked "Rate each *SL* activity for how fun or interesting it was." For both questions the activities listed were "Exploring and navigation," "Movement," "Having discussions," Modifying my avatar," "Role-playing," "Building," and "Designing." Students were asked to rate the activities on the same 4-point Likert scale from 1-4 (Not at all/Very). For comparison purposes, the results of these questions shown below in consecutive Figures 7.10 and 7.11.

[10] The only exception is the "excitement" descriptor for the avatar modification question; there only about 45% of the students responded "very" or "somewhat."

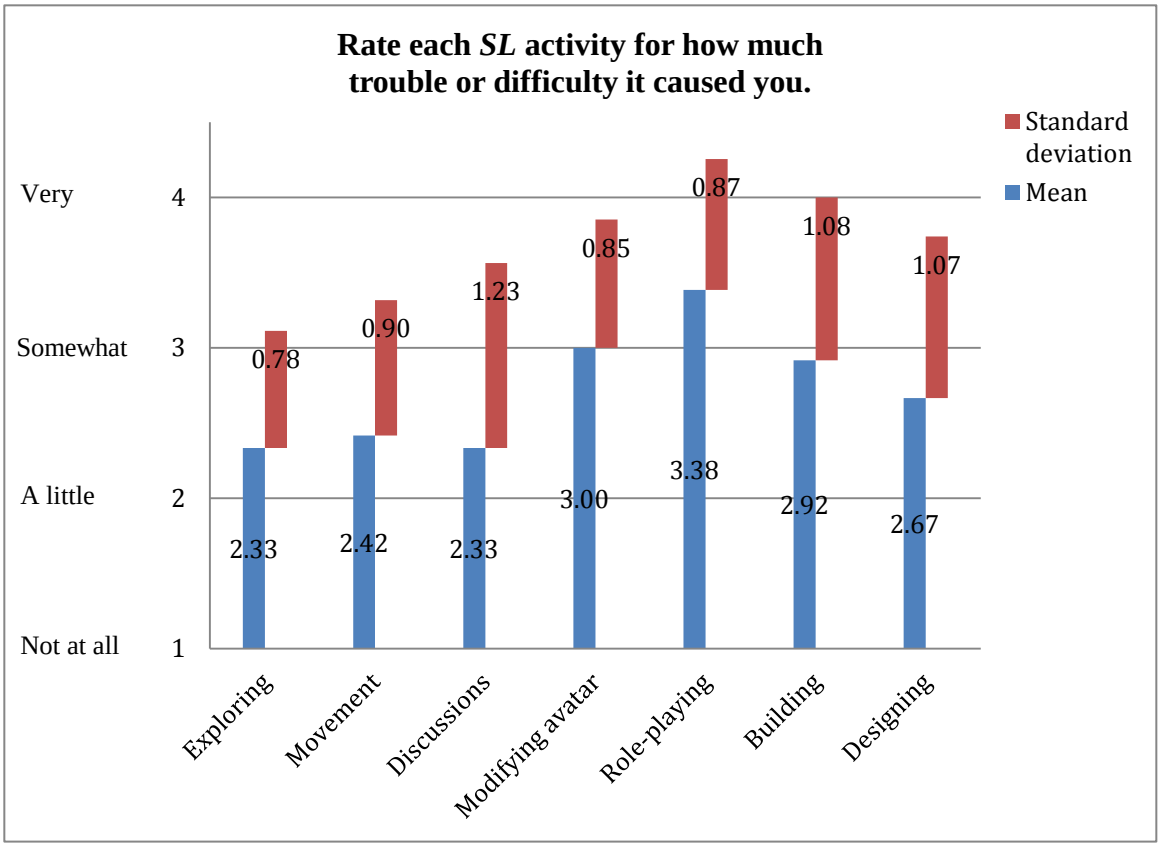

Fig. 7.10. Results for rating the activities for trouble or difficulty question in means and standard deviations.

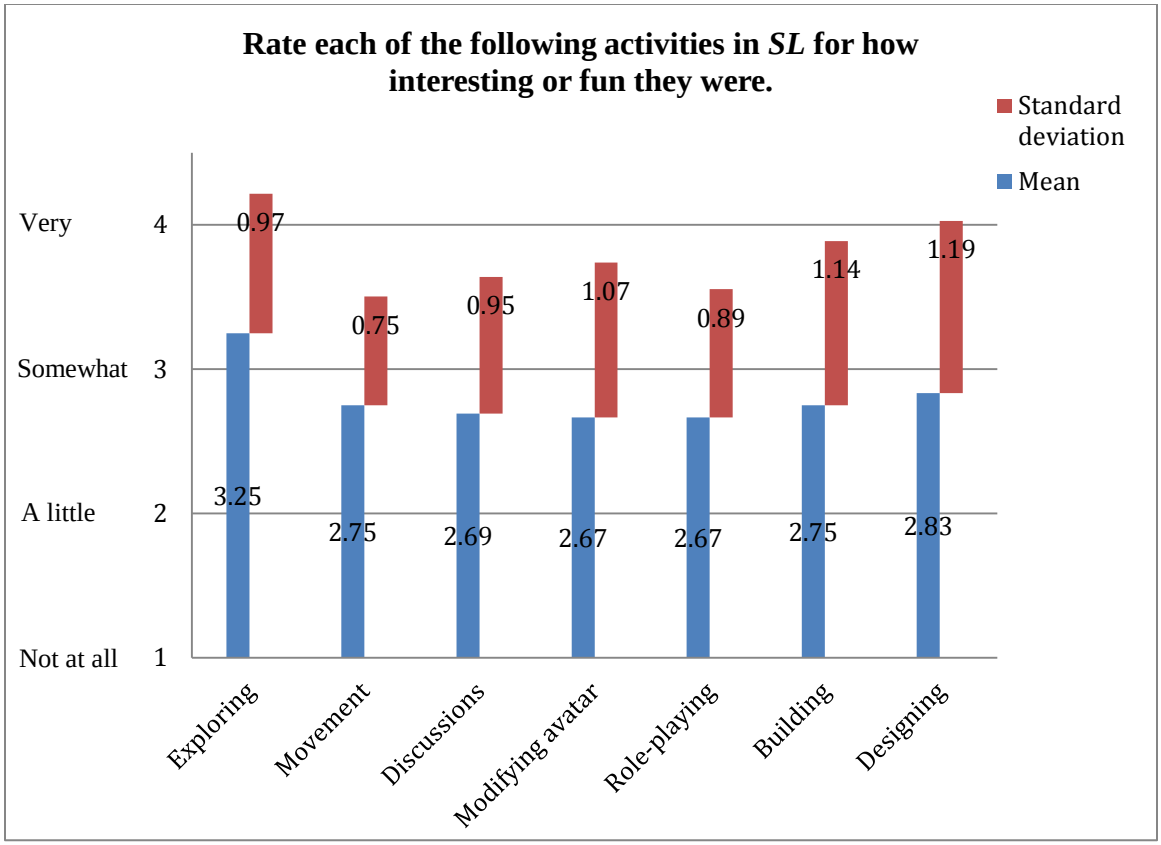

Fig. 7.11. Results for rating *SL* activities for enjoyment question in means and standard deviations.

Not surprisingly, students had the most difficulty with avatar-modification, role-playing, building, and designing with mean responses at close to 3, or "somewhat" troublesome or difficult. Students had fewer problems with exploring, movement, and having discussions, with the mean response closer to 2, or "A little." However, the standard deviations are quite high (either close to or exceeding 1) for all of these options except exploring, indicating there was a wide range of responses. The responses are much more uniform for the "fun or interesting" question. Students were most enthusiastic about exploring, rating it a bit better than "Somewhat" fun or interesting at

3.25. But the rest of the activities were rated close to "Somewhat" interesting or fun at 2.67-2.83. Again, the standard deviations were high, also indicating a wide range of responses. Although the students were not asked to explain their answers to these questions, their responses confirm the responses to the first experience questions. Students clearly found their *SL* activities somewhat enjoyable, but had significant problems modifying their avatar, role-playing, and building. These responses are also consistent with the play, unintuitive, and unstructured patterns, particularly the results for exploring which was clearly favored by the students in both their qualitative and quantitative responses.

Relevance to Learning Goals

The following question was designed to determine what the students had learned from the *SL* experience in terms of the specific goals of this course and the more general goals of a rhetoric course. The question read, "Which options best describe how your experience in *SL* affected your understanding of rhetoric? Choose all that apply." The students then rated a series of options, this time on a 3-point Likert-type scale, from 1-3 (Not at all/A lot).[11] The options were as follows: "It improved my appreciation of other positions," "It improved my understanding of how persuasive strategies work," "It helped me to put persuasive strategies to use in other assignments," "It helped me to put persuasive strategies to use in my interactions in *SL*," "It helped me consider how communities and trust are built." These options were chosen because they reflect both

[11] Here the change from a 4-point to a 3-point scale illustrates that in this earliest version of the survey the researcher did not understand the importance of using consistent scales when reporting the results.

some of the basic goals of a rhetoric course (understanding other positions, using persuasive strategies) and some of the specific goals that Michael had set out (community-building, using persuasive strategies in a "real" situation). The results of this question are shown in Figure 7.12 below.

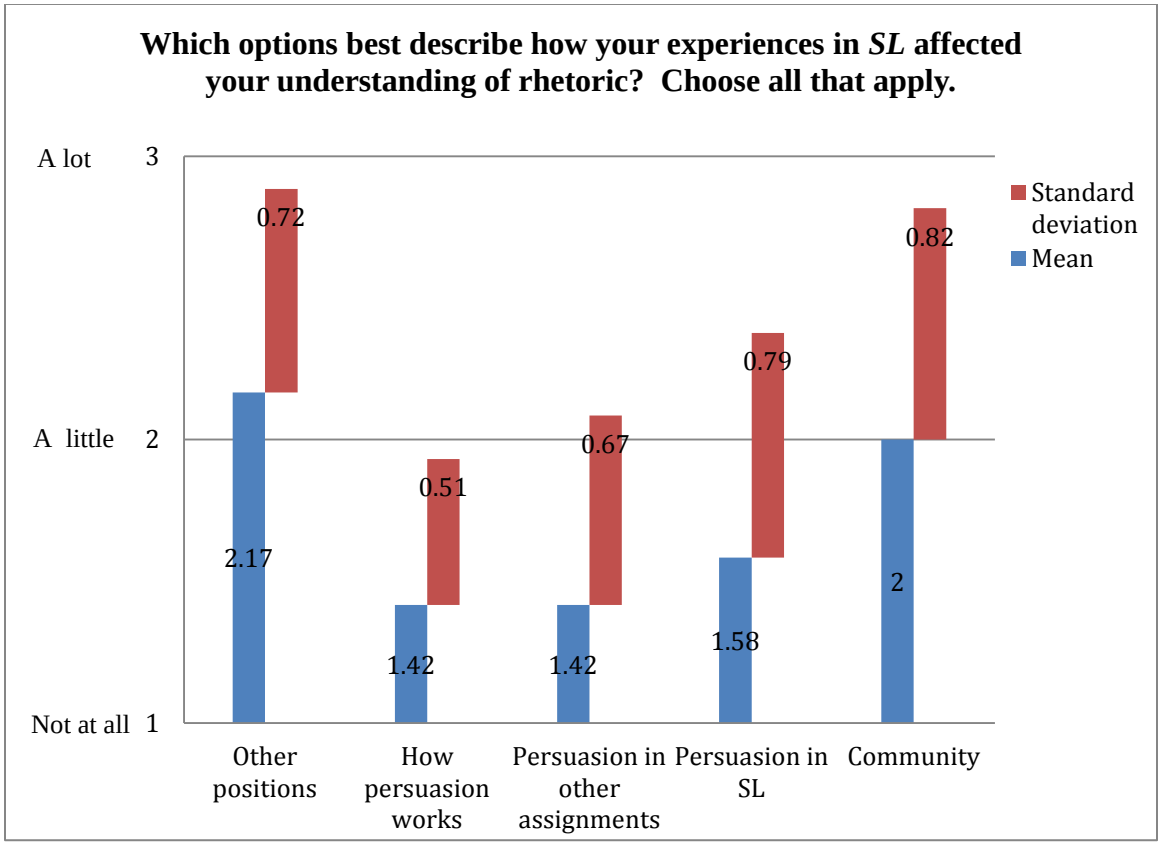

Fig. 7.12. Results of the learning goals question in means and standard deviations.

The results clearly show that students found the *SL* activities only "A little" or "Not at all" relevant to the learning goals presented by the question. The detailed results in Figure 7.10 below show that some students found that their understanding of other

positions and how communities and trust are built were affected "A lot" by their *SL* activities. But the majority of students found *SL* "Not at all" applicable to the three options that related to persuasion.

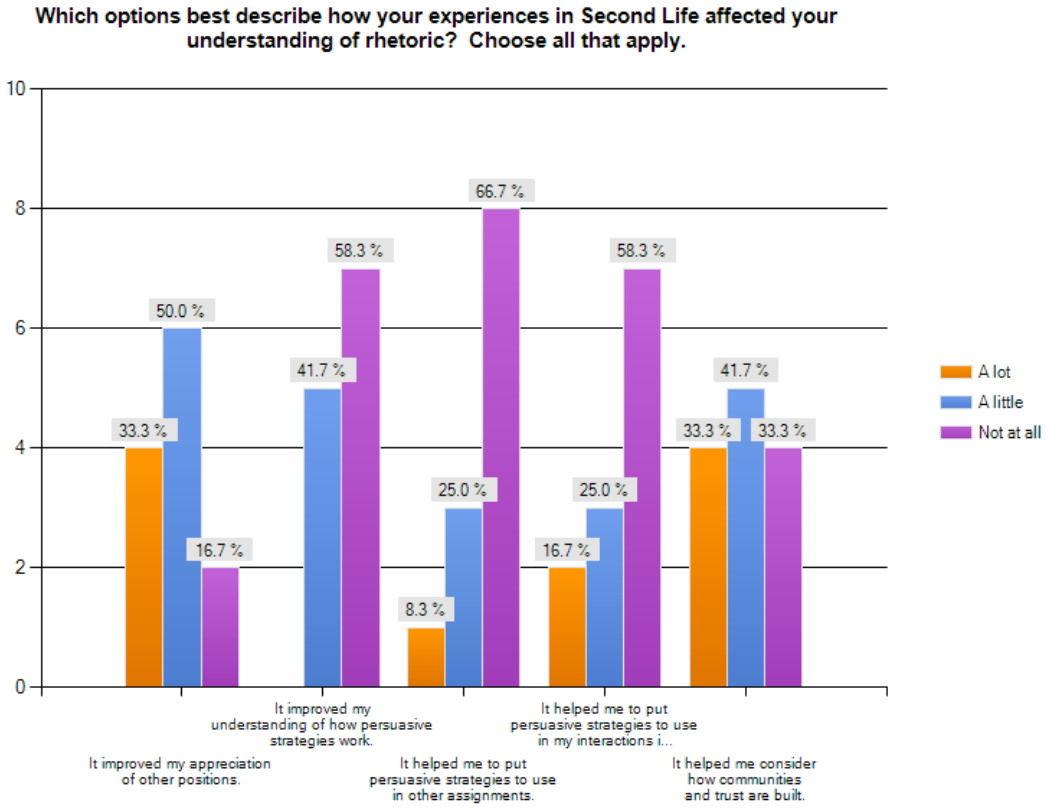

Fig. 7.13. Detailed results for the learning goals question in percentages.

The written responses students provided to explain their answers largely confirm these results, saying things like, "it didn't help to further my understanding of persuasive strategies. I couldn't comment on how persuasive strategies are even utilized in second life." However, 6 of the 12 responses explained ways that they found the *SL* experience relevant to goals of the course that were not encompassed by the question's options, and

many of these responses were already quoted in the goals pattern's section above. While there are no clear trends in these responses, several students discussed *SL* as a digital environment, some made general statements about how rhetoric and writing functioned differently in *SL*, and some discussed learning about social interactions. As one student said, "I feel like I learned a lot more about content creation and social gaming in second life than I did about rhetoric." This response, with its gestures towards those themes, seems to be an accurate representation of the responses for this question.

The survey also asked students to compared the usefulness of *SL* to that of the other digital environments used in the course to determine what sort of impact *SL* had made in comparison to the other environments. The question asked, "Which options best describe your feelings about how *SL* compared to the other digital environments you've used for this course? Choose all that apply." The students rated the following options on a Likert-type scale from 1-5 (Strongly disagree/Strongly agree): "I prefer using *SL*," "I prefer using other digital environments," "I don't prefer one over the other," "*SL* was more relevant to the overall course," "The other environments were more relevant to the overall course," "Both were equally useful in terms of learning about rhetoric and writing," "None were useful for learning about rhetoric and writing."[12] The results for this question are shown in means and standard deviations in Figure 7 below.

[12] Again this shift in the question's scale is due to researcher error in this early version of the survey.

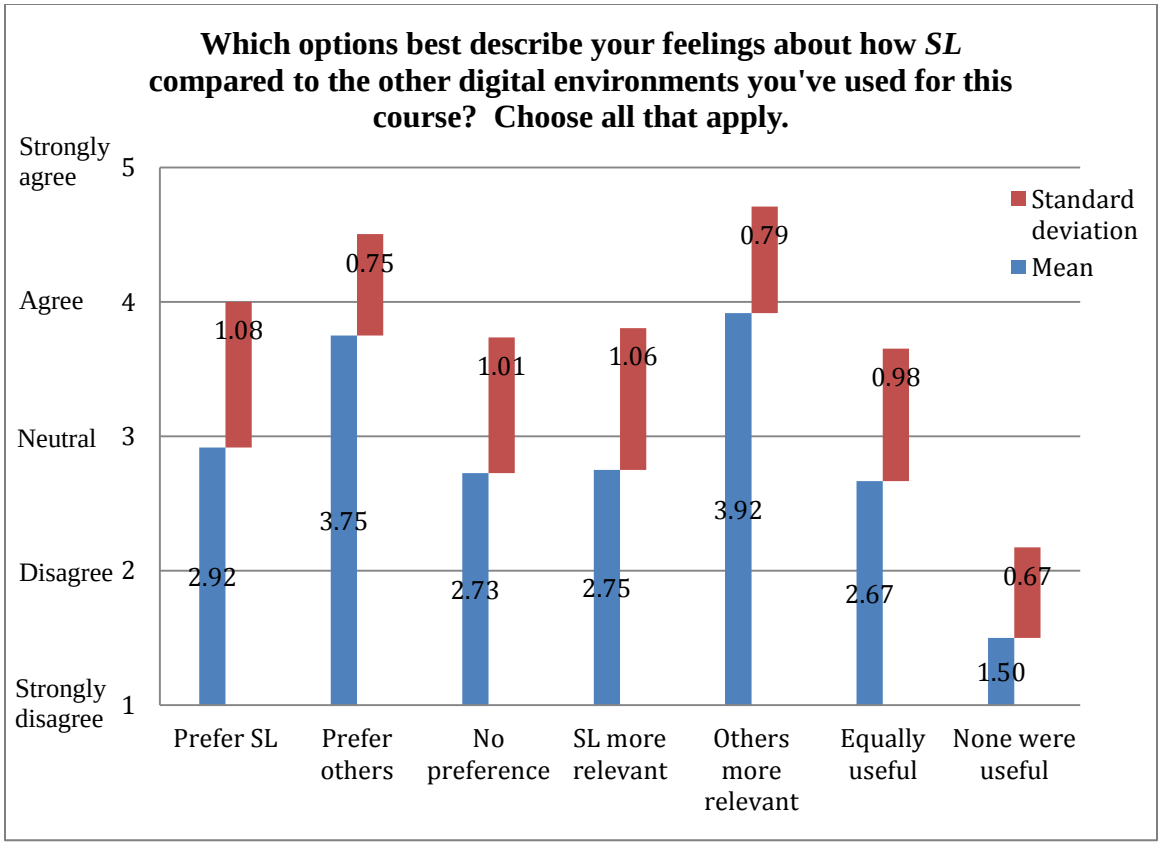

Fig. 7.14. Results in means and standard deviations for the comparison of digital environments question.

The mean responses for this question show that students preferred the other digital environments and also found them more relevant to the overall course. The mean responses for the rest of the options are close to neutral at 2.73-2.92. The only exception is the option "None were useful," where the mean response of 1.5 clearly indicates that students disagreed with that statement. Of the 9 written responses that students provided when asked to explain their answers, 5 explained that *SL* was useful in different ways than the other environments were. One student said, "I thought editing wiki's were certainly the most useful in terms of rhetoric and writing, but I still got a lot out of second

life that I couldn't get from other environments." A few responses described them as equally useful: "Both Second Life and the other Digital environments were helpful in establishing a sense for online rhetoric and writing." The response with the most positive things to say about *SL* stated,

> Learning about Second Life and other digital environments definitely helped further my understanding of rhetoric and writing. It was interesting to think of them as unique writing and rhetoric platforms and never before have I considered the implications of the 'way' you use different digital environments.

The other 4 responses either described *SL* as unrelated to the goals of the course or less useful than the other digital environments. Another detailed response explained, "I don't think SL contributed much to my understanding of writing in digital environments in a practical way like Twitter or Wikis did. If it was some other serious MMO, perhaps that could have helped with understanding digital interactions, but I dislike the artificial nature of Second Life especially in the way we used it." A less critical response said, "The other environments helped my rhetorical skills developed, the game [*SL*] not so much because I would rather focus more on writing." The discrepancy between the generally negative quantitative results and the positive things that the majority of the qualitative responses had to say about *SL* can be explained to some extent by the large numbers of students who responded neutral for all of these options (except the "none were useful" option). The significant number of neutral responses is shown below in Figure 7.13, which shows the detailed results for this question. It seems that some of the

student had difficulty comparing *SL* to the other environments, and this may explain the mixed results of this question.

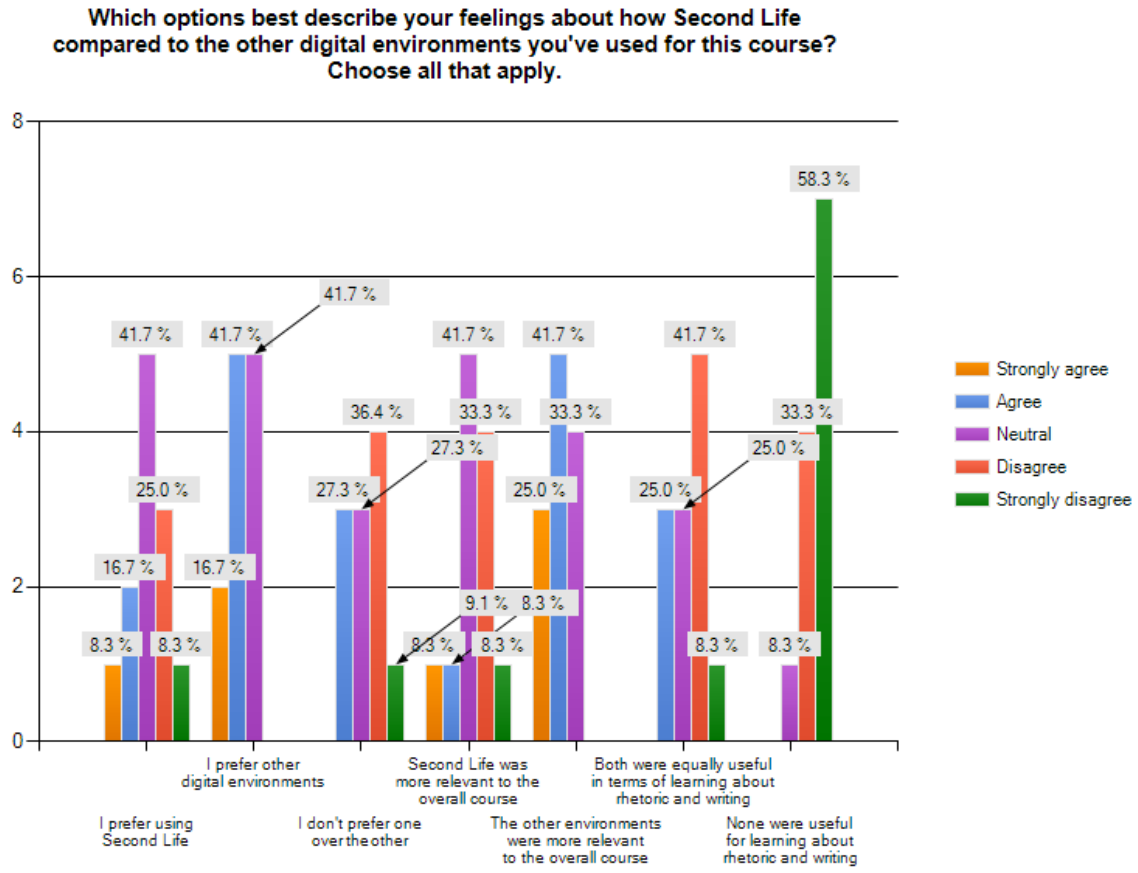

Fig. 7.15. Detailed results for the compared digital environments question.

Final Impressions

The last two questions were designed to determine the students' overall impressions of *SL*. The first question asked, "How would you react if another course required you to use *SL*?" and the results are shown below in Figure 7.16.

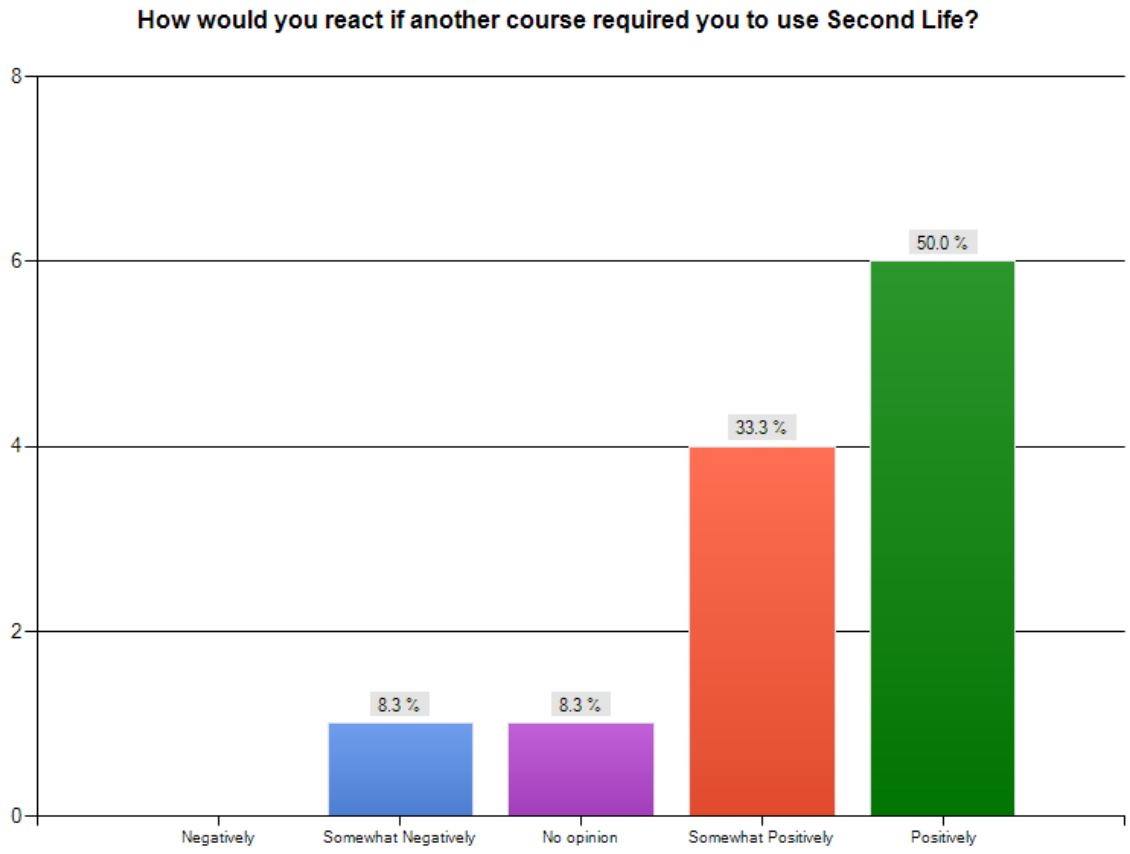

Fig. 7.16. Responses to the future use question in percentages.

Half of the respondents said they would react positively, and a third of the class said they would react somewhat positively. Although these responses are surprising in light of range of difficulties that students encountered in their *SL* activities, their written responses offer some explanation. In those written responses, the sub-code of the goals pattern "potential" appeared most frequently (in 6 of the 10 responses), and all of these responses explained that while they had had difficulty using *SL*, they had enjoyed it for various reasons, saw that it had potential as a learning tool, and were curious about how else it could be used. In these responses students said things like, "Second Life is fun in a way, and I am sure that there is more to learn about it. Trying to use it for a different purpose rather than living out our characters we designed in our Multi Media Identity projects would be another interesting view of the game. I actually am hoping that I get to use it again in another class." Another student said, "Yeah I'm really interested in how second life will work with learning and the educational process. Especially after reading Gee." The rest of the written responses were related to the play pattern, with students saying, "It is a game afterall, and was a fun experience," and "I absolutely loved using SL as a part of my course. I wouldn't mind if professors used it more often than not."

The final survey question asked students how their impression of *SL* had changed during the course of the semester. The results for this question are shown below in

Figure 7.17.

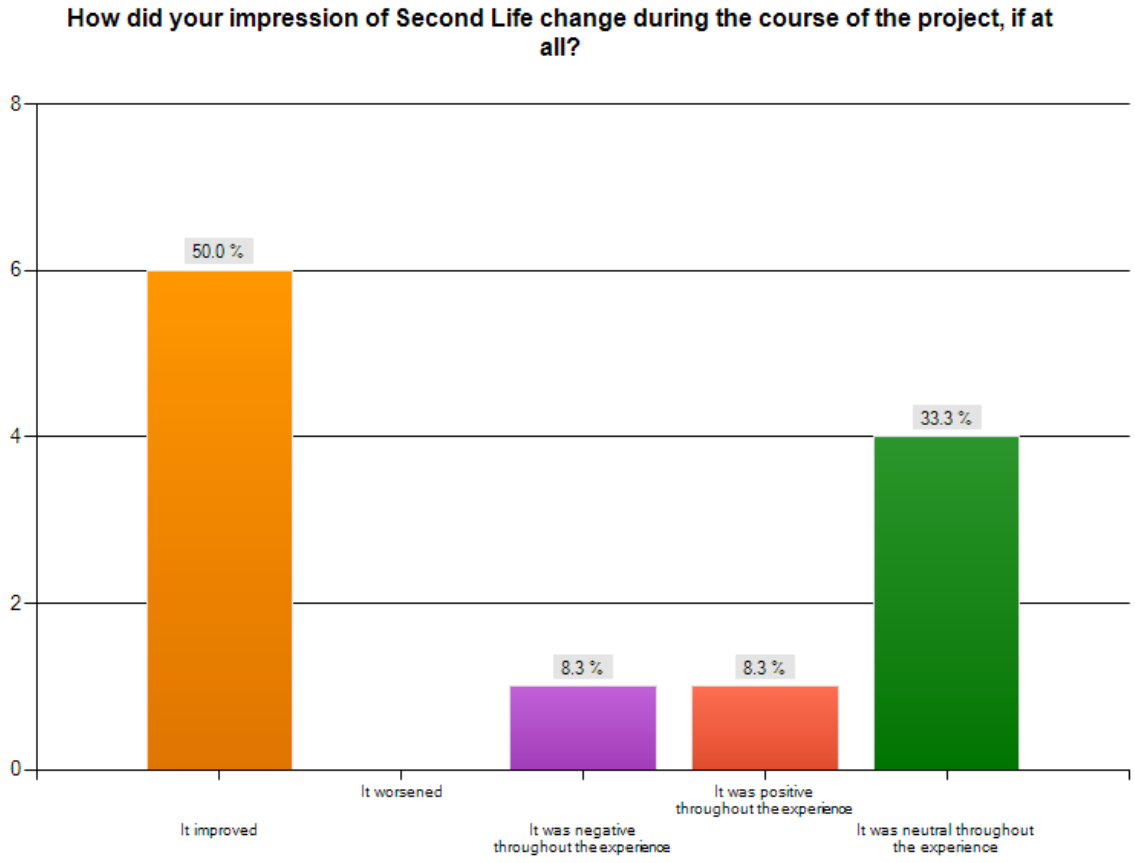

Fig. 7.17. Results of the overall impression question in percentages.

These results are interesting in that half of the class felt that their impression improved despite the fact that, based on the results of other survey questions, as their experience progressed they ran into more technical problems and frustrations. Not surprisingly, half of the written responses for this question fall into the play pattern, and there is one reference to the unstructured, unintuitive, and unrelated patterns each. Here is a response from a student who said their impression had improved, "I was unsure about

learning in second life at first. Almost felt a little creepy. After reading gee, thinking about my own game experiences and then actually playing SL I think there is some potential but it may be hard to realize." This response is from a student who said their impression remained neutral throughout:

> I came into second life thinking that it wasn't going to be amazingly entertaining or incredibly boring, and I was correct. It was fun to interact with other characters and it was especially fun to explore all that Second Life has to offer, but I wouldn't say my overall opinion has taken a turn for the better or worse after playing.

Overall, I found these responses to be quite positive considering the range and frequency of problems that students experience with *SL*.

The following points summarize the major findings of analysis of the survey results:

- Although the quantitative results show that students did find their *SL* experience to be somewhat fun, interesting, and creative, they also found it to be frustrating, confusing and difficult. These mixed results seem to have been caused by technical and interface problems as well as ambiguities in the assignment itself.
- The quantitative results are confirmed by the patterns that came out of the qualitative data because play and unintuitive were the two most frequent patterns.

- In terms of the assignment's goals, students appreciated *SL* as a new digital environment that they could compare to the other environments experienced during the course. They also felt that *SL* had potential as a learning environment, but that potential might be difficult to realize.
- Most students did not find the *SL* experience supportive of the traditional goals of the writing classroom and only 1 student could articulate how the *SL* experience related to their understanding of rhetoric.
- Despite the significant problems they encountered, most of the students found their *SL* experience to be positive, and several were interested in using it again and learning more about it.

Comparing these results to those of the in-class observations, it is clear that students experienced more frustration and confusion than the observations results showed. It seems that those students who were observed to be disengaged, especially during the group building portion of the assignment, were probably the same students who found *SL* to be primarily a frustrating experience. The survey results also show that most of Michael's goals for the assignment were unsuccessful. The two successes were that students valued *SL* as a unique digital environment, which they could compare to the other environments, and the class was able decide on a purpose for their *SL* activities that brought some closure to the open-ended game. However, very few of could see how *SL* was related to rhetoric or writing, and most students were unable to role-play, making it impossible for the students to fulfill Michael's goal of putting rhetorical strategy to use in a "real" rhetorical situation.

IMPLICATIONS OF RESULTS

In terms of their experience of *SL*, it is clear that students enjoyed and had a playful experience during some of their activities. Both my in-class observations and the students' survey responses show that most of the students had a fun, engaging experience. However, they also ran into significant problems with *SL* as illustrated by the unintuitive and unstructured patterns in the written responses as well as the quantitative data. These problems with both the *SL* interface and the assignment structure created a scenario where students could not have a truly playful experience according Csikszentmihalyi's definition. As I explained in Chapter 1, for a person to experience play, or "flow" in Csikszentmihalyi's terminology, they must be faced with constant challenges. In terms of that criterion alone, the *SL* experience was highly successful for students. In *SL* the students experienced what Csikszentmihalyi describes as "the challenge of the unknown, which leads to discovery, exploration, problem solution" (30). A sense that one is investigating the unknown, or an atmosphere of experimentation, is also an essential element of play according to Brown (141). And in order to engage in play at all, people need to feel that they are testing boundaries in a safe environment. *SL* provided a space where students felt comfortable experimenting with the space's possibilities and exploring, so in this sense their experience was playful. The students' experience in *SL* seems quite similar to Rouzie's description of his own students using hypertext, "The medium was young and experimental and instructors framed it that way, giving students permission to introduce playfulness into their projects. Learning how to use the software seemed to require some playing around as well" (6).

However, many of the students experienced significant problems because they were not properly prepared for those challenges. In Csikszentmihalyi's words, the challenges were not "evenly matched by [the participants] capabilities" (50). Although some students' experience with video games and other digital spaces prepared them well for the challenges posed by the *SL* interface, for many the challenges exceeded their skills and caused them frustration and confusion. Csikszentmihalyi also says that to experience flow, the participant must feel "in control of his actions and of the environment," and it seems clear that many students felt little control in *SL* because of the lack of structure to the role-playing activity and lack of direction or instructions for the building assignment (44). These two conflicting characteristics of their experience (that they had the freedom to experiment and explore, but wanted for appropriate instruction and direction to complete their activities) might explain why the data shows that students experienced both enjoyment and frustration in *SL*.

If we consider this case in terms of whether or not this assignment supported the traditional goals of a writing classroom, it seems clear that goals like learning writing or rhetorical analysis skills were not achieved, at least from the students' perspective. Based on both the quantitative and qualitative data, most students found no clear connection between their *SL* experience and learning about writing or rhetoric. However, based on my observations and on Michael's acknowledgement in his reflection that he simply ran out of time for the assignment, Michael may have been able to make the relevance of the assignment clearer to the students if he had had more time for discussion and reflection on the experience. This problem of connecting the experience to the

assignment's goals is what Carr, whose work in *SL* was reviewed in Chapter 2, would describe as a lack of framing. One of Carr's major findings was that framing the experience for students was a critical component of using *SL* in the classroom.

The assignment was perceived by students to be more successful in terms of the specific goals of this course, which focused on writing in digital environments. One of Michael's goals for *SL* was that it provide another example of a digital environment, and based on the written responses students understood their *SL* activities as applicable to the course in this sense. However, they had difficultly articulating exactly what they learned from *SL*. Although many of the students understood that they had learned about content creation and collaborative interactions in digital environments, most did not quite see how these experiences related to writing and rhetoric, nor could they clearly explain what they learned about digital environments.

What is remarkable about the data from this case is that it shows that despite all of the problems that the students described and the fact that they didn't have a clear understanding of how *SL* related to the goals of the course, the majority of students said that they would be willing to use it again for another course, and they were interested in its potential as a learning environment. In addition, it is also remarkable that these students quickly came to conclusions about how *SL* should best be used for pedagogical purposes that have taken instructors much longer to determine and successfully adopt. For example, many of the students saw the potential for exploring the larger *SL* world in small groups, for interacting with other users, and of under-taking building projects,

which are very similar to the best practices outlined by Sanchez. These students, like so many instructors, could see *SL*'s potential.

Overall the data from this case confirms previous research by Bump, Sanchez, and Carr reviewed in Chapter 2 on pedagogical uses of *SL*, providing another example of *SL* as both an extremely problematic and promising pedagogical space. In Chapter 8, these results will be compared to those from the other cases to get a clearer sense of what aspects of the assignments and technologies were most important in shaping the students' experience and learning.

Chapter 8: Conclusions and Implications

Nathan Young's February 2012 article in *The Chronicle of Higher Education* describes how Mike Wesch, anthropology professor at Kansas State University and champion of playful uses of digital media in the classroom, has reconsidered his message after discovering that many teachers had little success when they implemented his methods. Wesch, who gained fame via *Youtube* videos documenting the innovative ways he uses digital media in his classroom to create a creative, playful, and experiential learning environment for students, said that many instructors who had tried his methods in their classrooms reported that it did not work. "The students thought it was chaos," they said (Young). After reflecting on such reports, Wesch determined that part of the problem was too much focus on incorporating a new technology and too little on "a sense of purpose" for the assignment (Young). The other missing piece was a lack of connection between instructor and students, which is critical when the goal of incorporating these technologies is to give students a more active learning experience, where they are collaborators in the creation of knowledge rather than just receivers of knowledge (Young). As Wesch says, ""Students can all sniff out an inauthentic place of learning….They think, if it's a game, fine, I'll play it for the grade, but I'm not going to learn anything." Thus, Wesch's new message is: "It doesn't matter what method you use if you do not first focus on one intangible factor: the bond between professor and student" (Young).

Wesch's work is one of the most recent examples of interest in pedagogical uses of play, similar to the tradition in composition going back to the process movement (e.g. Deemer). Wesch's work represents a revival of interest in play across a variety of fields brought about by the introduction of digital technologies into the classroom, and represented in composition by scholars like Rouzie, Selfe, and Sirc. It is the work of these scholars that served as the inspiration for this collective case study. My study explores what play might look like in a writing classroom and if students understand play in the same ways as composition scholars do. The research questions addressed three aspects of the students' experience: to what extent multimodal assignments are playful, creative, or engaging experiences; to what extent students perceived the assignment as supportive of the traditional learning goals of a writing course; and what role the visual nature of these technologies had in the students' experiences. These conclusions follow the research questions and address the following topics by comparing the results of the cases: how students perceived structured assignments as work, how exploration and experimentation impacted the student's enjoyment of the assignment, and the important role that the visual aspects of the technologies played in the students' experience and learning. *The Chonicle*'s article offers an example of how the arguments about playful learning are becoming more nuanced, and likewise the results of this study present a more complex understanding of the student experience of multimodal assignments and of how play functions in the classroom.

CONCLUSIONS AND COMPARISONS OF THE CASES

The results of this study largely confirm the anecdotal claims made by both teachers who use multimodal assignments like McCarthy, Carr, and Brinkmann and by scholars like Selfe, Yancey, and Faigley: the students agreed that such assignments are interesting, creative, and somewhat fun. Students also found these assignments to be useful in terms of some of the traditional learning goals of writing courses, as well as other learning goals specific to the particular course. The *SL* case is the exception, but even in that case, students came away with learning experiences they found valuable even if they were not always able to tie them directly to the goals of the course. The other assignments were viewed by the students as supportive of the traditional goals of a writing course to varying degrees. For example, the mind maps assignment was the most useful assignment in terms of developing writing skills such as invention, organization, analysis, and composing. The *Google Maps* and *Google Earth* cases show that these assignments prompted students to use research, argumentation, and analysis skills. Finally, across these three cases (mind maps, *Google Maps*, and *Google Earth*) students found the visual dimension to be important to both their enjoyment of the experience as well as to the usefulness of the assignment. These are the general outcomes of the study, but a more detailed comparison of the results of the cases reveals a better understanding of how the specific characteristics of both the assignment and the technology influenced the students' experience and learning.

Students Perceive Structured Assignments as Work

One important indicator of how the cases compared to one another was the order of frequency with which the patterns appeared in the qualitative data. Table 8.1 shows the frequency of the patterns for each case; note that written responses were often categorized into multiple patterns.

Table 8.1. Pattern frequencies for each case.

	Mind Maps	***Google Maps***	***Google Earth***	***Second Life***
1st	Goals (46%)	Goals (80%)	Play (62%)	Play (35%)
2nd	Big Picture (32%)	Visual (46%)	Visual (29%)	Unintuitive (29%)
3rd	Easy (24%)	Play (40%)	Goals (28%)	Goals (28%)
4th	Play (22%)	Easy/Technical (31%)	Technical (12%)	Unstructured (18%)
5th	Unnecessary (10%)	Unnecessary (11%)	Skill (8%)	Unrelated (6%)
6th	--	--	Unnecessary (6%)	--

Comparing the pattern frequency reveals significant differences in the students' experiences across the cases. As the table reports, in both the mind maps and *Google Maps* cases, the goals pattern appeared most frequently, in 46% and 80% of the responses respectively, and the play pattern appeared third or fourth, in 22% and 40% respectively.

In the *Google Earth* and *SL* cases, the play pattern appeared first, in 62% and 35% of the responses respectively, and the goals pattern appeared third, in 28% of the responses in both cases. Although in some of the cases the differences between the frequency of the patterns are more drastic that others, these pattern rankings are indicative of the students' overall experience in each case. Analysis of the coding results, the assignments, and the technologies offers some explanation of these differences. In both the mind maps and *Google Maps* cases there are several indications that while students generally enjoyed these assignments, the way that the assignment was structured made the experience more work-oriented than play-oriented. First, the infrequency of the play pattern in both of these cases indicates that when students were given the freedom to say what they wanted about the experience, their remarks do not describe it as playful; instead they mainly described it as useful. Second, student most often described the experience as interesting. Although "interesting" is an indication of play because it shows that the person was engaged in the experience, it is not a strong indicator of play. In addition, one of my conclusions for both of these cases was the students did not seem to differentiate clearly between the experience of using the technology and the usefulness of the assignment. In other words, when specifically asked to describe *the experience*, students discussed topics related to the *learning outcomes*. All of these observations indicate that in both of these cases students associated the assignment with work, not play. While these students did not perceive these assignments as playful, they were both highly successful assignments that the students appreciated. The students' perception of these assignments as work does not mean that these assignments were not playful at all, especially considering the

comments some students made describing these assignments as interesting, creative, and even fun. It also does not necessarily mean that these technologies are not amenable to a playful experience. However, these observations do indicate that without an understanding of play that includes feelings of accomplishment, productivity, intense focus, or engagement with a given challenge—important components of a playful experience according to play theorists—students may never consider assignments such as these to be playful experiences (Brown 136, Csikszentmihalyi 36).

Comparing these observations to the *Google Earth* and *SL* cases, where the play pattern appeared most frequently, reveals some possible causes of the lack of play-related descriptions and the focus on utility in the mind maps and *Google Maps* cases. In both the *Google Earth* and *SL* cases, students described the experience using play-related terms not offered by the quantitative questions. In other words they described a playful experience in their own unique terms. These play-related terms and concepts appear in the results as sub-codes of the play pattern. The sub-codes "explore" and "open," were used to label responses that discussed enjoying exploring or experimenting with the openness of *Google Earth* and *SL*. The *Google Earth* case also included the sub-codes "cool" and "social," which were used to code responses that simply described *Google Earth* as "neat" or "amazing" and discussed enjoying the experience of seeing the work and comments of other students and users in *Google Earth*. The play pattern for the mind maps and *Google Maps* cases did not include significant numbers of unique sub-codes such as these. This absence is significant because more unique sub-codes of the play pattern seems to indicate that the students had a more playful experience.

The similar sub-codes "explore" and "open" from the *Google Earth* and *SL* cases indicate that the students enjoyed having a space for experimentation: experimentation with the space through exploring it, or experimentation with the space through testing its capabilities. This is not surprising because experimentation (and I would add innovation because it is so closely related) is an essential characteristic of play as defined by the definition of play in Figure 1.1 and as discussed by many of the play theorists reviewed in Chapter 1 (Csikszentmihalyi; S. Brown; T. Brown; Jenkins; Gee). In comparison, the mind maps and *Google Maps* case assignments provided no space for exploration or experimentation; students had a specific task at hand and no time or opportunity for experimenting or playing with the assignment. Although students may have felt that the assignment was interesting or that the process was creative, because the assignment's requirements, parameters, and goals were so clearly defined, students perceived them as work. It seemed that many of the students viewed those assignments as only marginally different than a traditional assignment. I will discuss these findings in more detail below, but it seems that students associate structured assignments with work, and assignments that involve experimentation and exploration with play.

The students' rather traditional perspective that associates structure with work is also supported by the participants who expressed conservative views about the appropriate content for a writing course. A significant minority of students described these assignments as "not writing" and therefore less relevant to the course, or expressed a preference to "focus on writing." Even in these very small datasets, 13% of the of the students made conservative statements about writing course content such as these, and

these finding mirror those of both Bump and Sells. Comments like these and the comparisons discussed above indicate that it is difficult for students to see the value of activities that are not clearly structured or explicitly connected to the course's goals.

The Impact of Exploration and Experimentation

Looking more closely at the *Google Earth* and *SL* cases shows that exploration and experimentation were important components of the students' enjoyment of those assignments. Experimentation and exploration are also facilitated by a low-stakes environment, which as I will explain, describes portions of the *Google Earth* assignment and the *SL* assignment in general (Brown 17). Analysis of these cases also reveals how specific characteristics of the assignment and technology worked to provide a space and atmosphere of experimentation and exploration.

The *Google Earth* case is a particularly interesting example for several reasons. First, it was the only case that achieved a balance between work and play: students found the assignment both useful and fun. Second, on the surface it was similar to the *Google Maps* and mind maps cases: students had a specific task to complete just as they did in the mind maps and *Google Maps* cases. And third, *Google Earth* and *Google Maps* are similar technologies. So why did students have such different experiences in the *Google Earth* case? One factor was the students' perception of the technology; *Google Earth* was new to the students, and many students commented that they had heard about *Google Earth* and were excited to try it, which is reflected in the "cool" sub-code of the play pattern discussed above. Thus, there was a sense of anticipation and curiosity before the

students began working with the tool. They were intrinsically motivated to use *Google Earth*, another important characteristic of play (Csikszentmihalyi 10). Second, exploration is built into the *Google Earth* experience; using it involves a considerable amount of looking around and zooming in and out to try and find what you are looking for, especially for new users. When comparing *Google Earth* to *Google Maps*, the differences in the students' experiences may be attributable to the fact that the students likely were accustomed to *Google Maps* and didn't have the same sense of excitement about it as they did for a new technology like *Google Earth*. Another factor may have been that *Google Earth* has a more social aspect in that users can see photos uploaded by other users of the areas they are viewing, which was reflected in the "social" sub-code of the play pattern. This factor, coupled with the fact that students were exploring a place they were very familiar with, their own campus, may have prompted them to explore and play with *Google Earth* in a way that *Google Maps* did not. Many of the students' comments confirm these theories, explaining that they were intrigued by both experiencing their campus virtually and by seeing other people's photos and comments about the campus. Finally, the assignment itself prompted students to explore in *Google Earth*. The instructor allotted a portion of one class to allow students to look at each others' memorials and posts, which gave them time to roam around the campus in *Google Earth*. In addition, their general fascination with the technology probably prompted them to explore other areas of the earth, which many of them described doing in their written responses. Thus, in the *Google Earth* case, the assignment was structured enough for students to identify it as work. However, it also provided time and space for exploration

in a low-stakes scenario, and it was a new and exciting tool. All of these factors allowed them to associate the experience more strongly with play.

The *SL* case is also revealing in that it exemplifies both the promises and pitfalls of playful learning. On one hand, the assignment scenario and the environment in the *SL* case were well-suited for fostering play. First, the assignment was low-stakes. The students were aware that the assignment was experimental, and they largely relied on experimentation to learn how to use *SL* and to determine what they could do with it. The low-stakes, experimental nature of the *SL* assignment is illustrated particularly well by my observations during the class where students were trying to learn what they could make in *SL* by opening up all sorts of objects and experimenting with *SL*'s building tools. Second, many students described *SL* as a bonding experience, or what Brown would see as diminished self-consciousness, and at least one student described experiencing a loss of awareness of time. Third, *SL* provided constant challenges, although, as previously noted, the students were not always well-prepared for these challenges. Finally, the openness of *SL* created a scenario that made students, in Brown's words, "open to improvisational potentials." The students' enjoyment of building in *SL*, modifying their avatars, and exploring was due to the fact that the students were not limited in these activities. Thus, students could truly explore and experiment in *SL*, which, as explained above, was further supported by the openness of the assignment. It also seems critical that Michael was honest and explicit about the experimental nature of the assignment. He was also forthright about the fact that he was no *SL* expert. The students understood that they were experimenting along with him, and that the assignment was truly open-

ended. Michael had created an authentically playful learning scenario. The students knew that they could fail and that they would not be penalized. The only way to truly fail was to not participate. In comparison, the students in the mind maps and *Google Maps* cases knew that they could fail in the traditional sense by not completing the assignment to their instructor's specifications.

Despite both the assignment's and technology's suitability for fostering play as well as the low-stakes experimentation and exploration that occurred, the lack of structure for the assignment left the students' with only a vague understanding of the relevance of the assignment to the course's goals. The students' confusion is exhibited most clearly by the "unintuitive" and "unstructured" patterns that came out of their written responses and that only one student was able to articulate how "writing" or textual production functioned in *SL*. Unlike the *Google Earth* case, the *SL* assignment did not provide enough structure for students to associate it clearly with work.

Despite the flaws of the *SL* case, it is important to point out the students did seem to have an authentically playful learning experience, more than in the *Google Earth* case. And based on many of the students' comments as well as the instructor's reflection, the assignment may have shown much more success in terms of the goals of the course had the instructor had just a bit more time to prompt students to reflect on the experience in terms of rhetoric and composition. However, the *SL* case is instructive in terms of understanding how important structure is for enabling the students to recognize and articulate the usefulness of the assignment.

The Importance of the Visual Components

Comparison of the quantitative results for the survey questions that asked about the impact of the visual nature of the technologies shows that the results are almost exactly the same across all three cases that included this question (mind maps, *Google Maps*, and *Google Earth*). The mean responses show that students agreed that the visual characteristics of the technologies made them fun, interesting, creative, and easy, and disagreed or strongly disagreed that they made the experience frustrating, confusing, difficult, or had no effect. Although it is not surprising that students would have positive things to say about the visual aspects of the tools, the uniformity of these results is remarkable, especially considering the differences discussed above. In addition, the qualitative survey results show that the visual aspects of the tools were an important part of why they were useful as well as enjoyable to use. The visual components allowed students to "see" or "illustrate" connections, gain a different "perspective," and see the "bigger picture." The connection between the visual components and the learning goals was particularly true of the mind maps case, where most comments about the utility of the assignment were related to the tool's visual dimension. In the *Google Maps* case, students explained that the visual aspect of the assignment facilitated their understanding of the censorship histories and provided a new perspective on the information. In the *Google Earth* case, students explained that the visual components of the tool facilitated execution of the assignment and made the analyses of the monuments easier to understand. These results show that for many students these assignments are enjoyable, engaging, and useful *because* of their highly visual nature, and they confirm the claims

that many composition scholars and instructors have made about the benefits of incorporating visual texts and technologies into the writing classroom. (Faigley, Selfe, Yancey, Hocks)

CONTRIBUTIONS TO THE FIELD

A More Complex Understanding of Play

The comparisons of the cases above illustrate that the simple injection of a multimodal assignment into the classroom will not necessarily create a playful learning experience for students. The students' experience is a complex phenomenon that is impacted by the structure of the assignment, whether or not they are provided a space for exploration and experimentation, their attitude towards the technology, and the characteristics of the technology. Not only is the students' experience complex, play itself is more complex than scholars who call for playful learning environments like Sirc and Rouzie seem to have anticipated. Looking back again to my discussions of play in Chapter 1, the *SL* case is reminiscent of Sirc's emphasis on experimentation: "Any material and technique was allowed if it would produce something exciting. Form and content were equally open…'A work needs only to be interesting'" (Sirc 18). Students certainly found their *SL* experience interesting, and they also expressed the sense that they were exploring new territory. However, the lack of structure to the assignment and the problems posed by the *SL* interface and functionality limited the usefulness of this assignment. As Sirc notes and the *SL* case illustrates, the difficulty is tying such exuberant experiences to the goals of the course, or as Sirc said, "learning some kind of

basic prose styling to help [students] avoid verbal pitfalls at the university" (268). Like Sirc, Rouzie also acknowledged the importance of work, describing his pedagogical philosophy as "serio-ludic," or valuing both work and play (33). Although Sirc and Rouzie acknowledge the importance of striking a balance between work and play, they did not offer discussion of how a playful scenario is created and sustained, the importance of the students' perception of the scenario, or how that perception is influenced by the assignment, the technology, and the instructor. The 2012 Digital Media and Learning Conference is another example of the over-simplification of play. Sessions that explicitly discussed play in terms of games or other approaches to playful learning made up 20% of the schedule, and many sessions covered data on to what extent students learned from such approaches. However, there was no discussion of what play actually is and what circumstances are necessary to experience it. What this study illustrates is that the complexity of play needs to be better understood if the benefits it could provide to learning are to be achieved.

The Significance of Exploration and Experimentation

Although the students in the mind maps and *Google Maps* cases did agree that the experience was enjoyable and interesting, the students in the *Google Earth* and *SL* cases had a more playful experience. The main difference between these sets of experiences is the element of exploration and experimentation. In the *Google Earth* and *SL* written responses, some of the strongest statements that the students were having fun were related to self-directed exploration and testing the possibilities of the tools. Based on

these results, for students to have a playful learning experience, space and time for exploration and experimentation need to be provided by the structure of the assignment and the characteristics of the technology being used. Exploration and experimentation seem critical for experiencing the benefits of play, such as intense engagement, learning by doing, and feeling a sense of accomplishment. They also can provide a low-stakes portion of the assignment, where students can experiment without consequences. Although the characteristics of the technology were important in fostering exploration and experimentation in the *Google Earth* and *SL* cases, the mind maps and *Google Maps* could also have provided such a space if the assignment had been structured to do so. What seems more critical than the specifics of the technology is that the space for exploration and experimentation be genuine, and genuinely low-stakes. Without such a space, assignments that are meant to be playful, creative, and engaging, may be perceived by students as no different than traditional assignments.

Visual Thinking and Learning

The study results illustrate that students appreciate the opportunity to experience information visually and to use tools that aid visual thinking. In all of the cases that asked students about how the visual nature of the tool affected their experience, the majority of students had only positive things to say about this aspect of the experience. In addition, the overlap in the written responses of the visual, play, and goals patterns indicates that the visual components of these tools are related to why students found them enjoyable and interesting to use, as well as useful for their learning. One implication of

these results is that visualization tools like mind maps, *Google Maps*, and *Google Earth* could aid student learning if used at the appropriate course level and as long as such assignments were explicitly related to the goals of the course to avoid the problems discussed above.

FUTURE RESEARCH

Major Multimodal Assignments

All of the cases studied here looked at secondary assignments that served to support the main event of the course: writing a research-based argumentative essay. They were also relatively low-stakes assignments and did not make up a large portion of the students' course grades. Because many composition and rhetoric instructors have students compose multimodal arguments in place of the traditional final essay, these sorts of assignments need to be studied to determine if students still find digital media assignments relevant to the traditional goals of a writing course when they begin to take the place of a essay. Because this study's results show that students found these assignments related to some of the traditional goals of a writing course, as well as to the specific goals of the course, it seems necessary to determine whether these results are replicated when the stakes of the assignment are higher in terms of the students' time and grades. It also remains to be seen whether the conservatism exhibited by a small portion of the students in these cases would appear in larger portions of the class in such a scenario. Case study research on these high-stakes multimodal assignments is especially critical in composition and rhetoric where student learning is not easily encapsulated by a

test-score or grade. Detailed analysis of the students' experience is necessary to understand how students are finding such assignments relevant.

Accomplishment, Intense Focus, and Meeting a Challenge

This study aimed to determine whether the students' experience of these assignments was playful based on if described the experience as fun, interesting, and/or creative. Although these descriptors do some work towards broadening the definition of play, more information is needed about the serious side of play: the role of accomplishment, intense focus, and meeting a challenge in playful experiences. A clearer understanding of these components of play, which are commonly associated with work, would increase understanding of the relationship between work and play as well as of the complexity of play in the classroom. Because the students' responses in the mind maps and *Google Maps* cases were most often related to the usefulness of those assignments, had the students been offered ways to describe the experience that emphasized accomplishment, intense focus, and meeting a challenge, the results of this study might have been very different. If a more complex appreciation of play is to be understood, the first step will be a better understanding of the role of these more work-associated characteristics of play.

At the outset of this study, I was intrigued by the possibilities of playful learning and had seen my own students inspired by multimodal assignments. However, these generally positive results surprised me: I did not anticipate that students would actually describe these assignments as fun and I expected to encounter far more conservatism in

the students' responses. Thus, from my perspective these results are encouraging. However, they remind us of two truths that can often get lost in the shuffle of pedagogical debates: 1) the student's experience is the most important indicator of learning, and 2) that experience is complexly influenced by the instructor, assignment, course, and technology, among other factors, and that complexity should not be underestimated in pedagogical discussions.

Appendix A: Study Information Sheet for the *Second Life* Case

PROTOCOL # 2009-12-0002

Participant Consent Form

Title: **Student Reactions to Rhetoric and Composition Instruction in *Second Life***

Conducted By: Lauren Nahas, Tekla Schell, Trevor Hoag, and Scott Nelson

Of University of Texas at Austin: Rhetoric and Writing Department

Telephone: 484-5753

You are being asked to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current or future relationships with UT Austin or participating sites. To do so simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

The purpose of this study is to seek insight into how Second Life affects student perceptions of rhetorical concepts, whether they are consistently able to connect their Second Life experience to rhetoric and composition, and under what circumstances they view their Second Life experience positively or negatively.

If you agree to be in this study, you may be asked to do the following things:

- The researcher will interview you once at the end of the study about any previous experiences you have had using Second Life and your impressions of your experiences using Second Life during this course. The interviews will be audio recorded, scheduled at your convenience, and last approximately 10 minutes
- The researchers will have you fill out a survey about your experiences in Second Life
- The researchers will collect writing assignments that you produce as part of your experiences in Second Life
- The researcher will collect writing that you produce and conversations that you have in Second Life as part of a class activity
- The researcher will observe you using Second Life in class

- The researcher will audio-record in-class discussions that you have about Second Life.

Total estimated time to participate in study is 30 minutes.

Risks / Benefits:

Risks of being in the study:

- The risks from participating in this study are no greater than those of everyday life.
- Your identity will be kept secret; no one will be informed that you are participating in the study, either during the study or afterwards.
- You will be assigned a pseudonym in any publications resulting from this research.

Benefits of being in the study

There are no direct benefits of being in this study, but the results of the study will help teachers using Second Life.

Compensation:

There is no compensation provided with this study.

Confidentiality and Privacy Protections:

The instructor will not be informed of your participation or nonparticipation until grades have been turned in at the end of the semester. In no way will your performance or participation impact your grade for the course.

The following steps will be taken to maintain the confidentiality and privacy of the interviews and class-sessions that will be audio-taped.

(a) interviews or sessions will be audio or videotaped;
(b) tapes will be coded so that no personally identifying information is visible on them;
(c) tapes will be kept in a secure place (e.g., a locked file cabinet in the investigator's office);
(d) tapes will be heard or viewed only for research purposes by the investigator and his or her associates;
(e) tapes will be erased after they are transcribed or coded.

The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information.

The **records** of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin and members of the Institutional Review Board have the legal right to review your research records and will protect the **confidentiality** of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

Contacts and Questions:

If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this page.

If you would like to obtain information about the research study, have questions, concerns, complaints or wish to discuss problems about a research study with someone unaffiliated with the study, please contact the IRB Office at (512) 471-8871 or Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685. Anonymity, if desired, will be protected to the extent possible. As an alternative method of contact, an email may be sent to orsc@uts.cc.utexas.edu or a letter sent to IRB Administrator, P.O. Box 7426, Mail Code A 3200, Austin, TX 78713.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information and have sufficient information to make a decision about participating in this study. I consent to participate in the study.

Signature:_____ Date: _____

_____ Date: _____

Signature of Person Obtaining Consent

Signature of Investigator:_____ Date: _____

Appendix B: Study Information Sheet for the mind maps, *Google Maps*, and *Google Earth* Cases

ORS Review Date: 02/08/2011 Do Not Use After: 02/07/2014
Study #2010-12-0045 Page 1 of 1

The Students' Experience of Using Mapping Technologies in the Writing Classroom

Conducted by **Lauren Mitchell Nahas** of the University of Texas at Austin, **University of Texas at Austin, FAC 8, Austin, TX, 78712-0200, xxx-xxx-xxxx, xxxxx@mail.utexas.edu**

You are being asked to take part in a research study. The purpose of this study is to learn more about **the use of web mapping technologies in the writing classroom**. If you choose to take part, we will ask you to **take an anonymous survey and allow the researcher to view your mapping assignment**. We expect it will take about **20 minutes** of your time to complete **the survey**. You can contact the researcher at the above address and phone number to discuss the study.

The risks of participating in this study are no greater than everyday life. There are no costs for participating. You will not directly benefit from participating. **Your identity will not be recorded; researchers will use a pseudonym or fake name for you in the research records. The survey is anonymous and neither the researcher nor your instructor will know who took the survey. When your mapping assignment is collected, your name will not be recorded, and any identifying information will be removed from the assignment. The data resulting from your participation may be made available to other researchers in the further for other research, but we will never share your identify with these other researchers.**

Your participation in this study is voluntary. You may decide not to participate, choose not to answer any question, or stop participating at any time **without any penalty**. If you want to withdraw from the study or have any questions, contact the investigator listed above.

If you have any questions about the study, please call **Lauren Mitchell Nahas** at **xxx-xxx-xxxx** or send an email to **xxxxxx@mail.utexas.edu** or contact through the mail at **University of Texas at Austin, FAC 8, Austin, TX, 78712-0200.**

This study has been reviewed and approved by the University of Texas at Austin Office of Research Support (ORS). If you have questions about your rights as a study participant, or want to talk to someone unaffiliated with the research, you may contact – anonymously, if you wish – the ORS : + 1-512-471-8871, by email :

orsc@uts.cc.utexas.edu, or by mail : ORS Administrator, P.O. Box 7426, Mail Code A 3200, Austin, TX 78713.

Appendix C: Coding Sample

This is a sample of how I coded the play pattern taken from the *Google Earth* case's survey data. These are the responses to the question that asked students to describe the experience of using *Google Earth*.

Student Response	**Final Code**
It was interesting to find places on campus using a detailed map and to be able to look at pictures of specific places. Also, it's a neat idea that you can post pictures yourself and have other people be able to view them and comment on them.	play-interesting, play-explore, visual, play-social, play-cool
I think it was good to learn how to use Google Earth, but this assignment on Google Earth was not very valuable. I think we could have achieved the same results if we just did the assignment on paper or talked about it in class rather than having to post comments on Google Earth. Since we have to pay for this version of Google Earth, I doubt I'll use it again. Although, it was interesting to check out other countries/cities using Google Earth.	skill, unnecessary, play-explore
I've never had an assignment incorporate modern technology in such a way - hence choosing both creative and interesting. It was fun to incorporate a writing assignment with Google Earth and useful because now I know how to utilize the site. I did not find it tedious, but it was a little frustrating when the photo didn't show up and confusing when certain things in the program itself went array. But I thought overall it was a good assignment!	play-creative, play-interesting, play-fun, skill, technical,
I thought it was a prett neat experience because we can actually go to the exact spot of the statue on earth an then post our picture and our thoughts about it to share with other people. From the viewpoint of a student, at least we got to do something that involved more than just simply writing a paper and then turning it in.	play-cool, play-social, play-unique

It was a good experience since I got to explore the UT campus more deeply and learned how to post things on Panoramio, which I had never done before.	play-explore, skill
At first it was a little hard finding locations but once i used it enough it became really easy. I think it is amazing how you can look up any place in the world and post pictures and comments.	technical, play-cool
It's new and nice that work we do in class is projected out into the net-cosmos where anyone/everyone can see.	play-unique, play-social
It is very interesting to see the various pictures and comments people have added about places throughout campus, but I had a hard time using it at first. It takes a while to get use to.	play-interesting, play-social, technical
I thought it was a very interesting class assignment. It was much more fun and creative than just writing another paper, also it was nice to learn how to use the site better.	play-interesting, play-fun, play-creative, skill
The process of posting the pictures and the comments was kind of confusing. The steps to do it were not clear	technical
I thought the assignment was fun and interesting, and at times I got confused about how to use Google Earth, how to upload the picture and comment, etc. I thought it was a creative way to go around campus and learn about the different memorials.	play-fun, play-interesting, technical, play-creative, goals-memorials
I really like Google Earth, especially the aspect that allows us to really be able to go into the streets and see from that point of view the layout of wherever we want to see.	play-explore, play-cool, visual
I found the assignment interesting in that I am now more knowledgeable of many memorials around campus and their deeper meaning.	play-intersting, goals-memorials

I thought it was pretty cool and interesting, I enjoy seeing people's pictures and their opinions about them.	play-interesting, play-cool, play-social, play-enjoy
The concept of Google Earth is really interesting... it's like walking around outside and it's pretty awesome. However, I posted my picture and article for the assignment for this class and I haven't seen it up at all, and that frustrates me a little bit.	play-interesting, play-cool, technical, immersive
Google earth is a pretty cool program. It's a little difficult to use at first. You have to get used to it before you really understand exactly whats going on then just looking at earth in google !	play-cool, technical

Appendix D: Sample of Coding Check

This table provides a sample of the coding check performed on the students written responses. The "researcher code" column shows the original codes that I labeled these responses with. The "rater code" column shows the second rater's codes. Note that the rater was not instructed to use the sub-codes, only the major pattern codes. In addition, the column with the original codes was hidden from the rater as they coded the responses. The "final decision" column shows the final codes agreed upon by the researcher and the rater after discussing any discrepancies. The codes shown in red indicate a discrepancy between the researcher's codes and the rater's codes. If a student's response is shown in red, this indicates that the researcher and the rater could not come to an agreement about that response.

Student Response	**Researcher Code**	**Rater Code**	**Final Decision**
It was interesting to find places on campus using a detailed map and to be able to look at pictures of specific places. Also, it's a neat idea that you can post pictures yourself and have other people be able to view them and comment on them.	play-interesting, play-explore, visual, social, play-cool	Play, Visual, Goals	Play, Visual
I think it was good to learn how to use Google Earth, but this assignment on Google Earth was not very valuable. I think we could have achieved the same results if we just did the assignment on paper or talked about it in class rather than having to post comments on Google Earth. Since we have to pay for this version of Google Earth, I doubt I'll use it again. Although, it was interesting to check out other countries/cities using Google Earth.	skill, unnecessary, play-explore	Skill, Unnecessary	Skill, Unnecessary, Play

I've never had an assignment incorporate modern technology in such a way - hence choosing both creative and interesting. It was fun to incorporate a writing assignment with Google Earth and useful because now I know how to utilize the site. I did not find it tedious, but it was a little frustrating when the photo didn't show up and confusing when certain things in the program itself went array. But I thought overall it was a good assignment!	play-creative, play-interesting, play-fun, skill, technical,	Play, Goals, Skill, Technical	Play, Skill, Technical
I thought it was a prett neat experience because we can actually go to the exact spot of the statue on earth an then post our picture and our thoughts about it to share with other people. From the viewpoint of a student, at least we got to do something that involved more than just simply writing a paper and then turning it in.	play-cool, social, play-unique	Play, Visual, Goals	Play, Visual
It was a good experience since I got to explore the UT campus more deeply and learned how to post things on Panoramio, which I had never done before.	play-explore, skill	Play, Skill	
At first it was a little hard finding locations but once i used it enough it became really easy. I think it is amazing how you can look up any place in the world and post pictures and comments.	technical, play-cool	Play, Skill	Technical, Play
It's new and nice that work we do in class is projected out into the net-cosmos where anyone/everyone can see.	play-unique, social	Play, Visual	Play, Visual
It is very interesting to see the various pictures and comments people have added about places throughout campus, but I had a hard time using it at first. It takes a while to get use to.	play-interesting, social, technical	Play, Technical, Visual	Play, Technical, Visual

I thought it was a very interesting class assignment. It was much more fun and creative than just writing another paper, also it was nice to learn how to use the site better.	play-interesting, play-fun, play-creative, skill	Play, Goals, Skill	Play, Skill
The process of posting the pictures and the comments was kind of confusing. The steps to do it were not clear	technical	Technical	
I thought the assignment was fun and interesting, and at times I got confused about how to use Google Earth, how to upload the picture and comment, etc. I thought it was a creative way to go around campus and learn about the different memorials.	play-fun, play-interesting, technical, play-creative, goals-memorials	Play, Goals, Technical	
I really like Google Earth, especially the aspect that allows us to really be able to go into the streets and see from that point of view the layout of wherever we want to see.	play-explore, play-cool	Play, Visual	Play, visual
I found the assignment interesting in that I am now more knowledgeable of many memorials around campus and their deeper meaning.	play-intersting, goals-memorials	Play, Goals	
I thought it was pretty cool and interesting, I enjoy seeing people's pictures and their opinions about them.	play-interesting, play-cool, social, play-enjoy	Play, Visual	Play
The concept of Google Earth is really interesting... it's like walking around outside and it's pretty awesome. However, I posted my picture and article for the assignment for this class and I haven't seen it up at all, and that frustrates me a little bit.	play-interesting, play-cool, technical, immersive	Play, Visual, Technical	Play, Technical
Google earth is a pretty cool program. It's a little difficult to use at first. You have to get used to it before you really understand exactly whats going on then just looking at earth in google !	play-cool, technical	Play, Technical	

I liked how we could read the details posted by other students in our class concerning the statues and what they represent. Reading about the memorials' histories definitely made me think more about how our campus remembers events and people and contributes to public memory.	social, goals-memory	Play, Visual, Goals	Goals, play
I just didn't think the Google Earth experience was that great. Yes it provided a visual representation of our work, but we could have achieved that in a number of other creative ways. The same is true for the Google Earth experience helping me understand UT's memorials. I don't think I gained any unique perspective on UT's memorials, though in the process of researching my own memorial, I learned about quite a few others. However, again, this could all have been done without the use of Google Earth. Thinking of memory in terms of whether or not I spent time at the place of the "memorial" was not really helpful and I didn't really generate any unique ideas about remembering and forgetting from the Google Earth experience.	unnecessary	Visual, Goals, Unnecessary	Goals, visual, unnecessary
I liked how it did incorporate in a creative way not only the assignment ifself, but also the overall purpose of the course. Nicely done.	play-creative, goals-relevant	Play, Goals	

Appendix E: Mind Map Assignment

Stasis: Mapping your Controversy

Part One: Laying Out the Positions

Your Name:

Your Issue:

Two Research Questions that pertain to your issue, one broader, one narrower.

1)

2)

Who are the stakeholders in this issue? Be as specific as you can be here.

1)

2)

3)

Identify at least 3 positions that stakeholders have taken on this issue. This will be informed by your research as well as your sense of plausibility. The goal here is to come up with opposing positions.

1)

2)

3)

What sorts of claims have each of your position-takers made? Or, what sort of claims might they make in order to defend their position?

1)

2)

3)

Part Two: Using Novamind to Map the Controversy

1. Open up a single mind map document for your entire group.
2. Place an "X" in the middle bubble and create an arm from it.
3. In the arm's bubble, write one of your group member's issue.
4. Make another arm, and in the next bubble write one of the issue's stakeholders. Make an arm extending from the issue for each stakeholder.
5. Make an arm from a stakeholder and name a position that the stakeholder has taken. Make an additional arm for each position the stakeholder has taken. Now repeat this process for the other stakeholders.
6. Finally, make an arm from a position and list a claim that is used in support of that position. Repeat for each claim made in support of a position.
7. Now Repeat This Entire Process For Each of Your Group's Members.

Part Three: Stasis Analysis

1. What should go in the central bubble? What words would you use to replace your group members' names?

2. Do some of the arms of your controversy "speak" to other arms more directly than others? Which arms are most like each other? Which arms are most different from the other arms?

3. How do the different arms differ? What distinguishes them from the rest of the map? Use the following terms (where applicable) to articulate the differences you see.
   a) Conjecture: Does something exist? Did an event happen? If so, how can the thing or event be characterized or described?
   b) Definition: How can the thing/event be defined? What kind of thing/event is it?
   c) Value: How should the thing/event be valued? What is its quality? Was it right or wrong? Bad or good? Happy or sad? Just or unjust?
   d) Policy: What should we do? Should this thing or event be submitted to some formal procedure
4. Which of the above criteria (a-d) best characterizes the majority of differences you mapped on your mind-map?

Appendix F: Mind Map Instructor Reflection

I decided to use mind maps for three reasons:

1. My main goal was to get the students to take a perspective from which they could see the different natures of disagreements. The big question I wanted them to be able to conceive of by the end of this unit was: why doesn't this controversy get resolved? What holds back the positions from coming into consensus? By making the mind-map arms, they were connecting positions to stakeholders, an essential cognitive step for getting to the bottom of a controversy and a way of thinking that was brand new to many of the students. Then, they had all these arms arranged in front of them--and thus were by virtue of the technology already in a critical position to answer my stasis questions: You've made all these different arms; now what is it that keeps them from coming together? What makes each arm really deserve to be its own? To answer that, the students needed to make use of some of the rhetorical theories of stasis.

2. I'm a big believer in the pedagogy of configuration. The ludologists say that games make us interpret only in order to configure; but new media also have us configure in order to interpret. Now, truth be told, I'm not convinced that mind-maps are inherently configurative enough to set up that two-way street between interpretation and configuration which is really "the quan" of learning. But it does get them using their eyes and hands to make a "thing" which they can then manipulate, and all of this moving around is actually requiring them to interpret the information they're looking at.

3. The DWRL computers are big and shiny, and I think that dispelled some of the apathy with which my students were apt to treat this assignment. You know, we get into habits:

and one of those is the school habit. You go to class, the teacher asks you to do something, you go through the motions, but you're not really taking anything away with you. But I wagered that if you're looking at that big screen and those bright colors, and when you push a button something happens, you may feel like this is new, and the sense of novelty can be exploited for pedagogical as well as profit-driven ends.

Appendix G: Uncategorizeable Written Responses

The responses below could not be categorized for two reasons. Some do not fall into one of the major patterns because they described something that was anomalous within the dataset and did not appear frequently enough in the data to merit a pattern. Others are too vague or unclear to be categorized.

Case	**Response**
Mind maps	I think a mind map doesn't make users frustrating or confusing to use at all.
Mind maps	In other writing classes, the professors will probably have me use mind maps
Google Earth	It was ok to use Google Earth in class while discussing the monument projects, but I don't know how often I would use it in the future.
Google Earth	The visual representation had no negative effect on our assignment whatsoever.
SL	There were better digital environments that we learned and engaged in within this class, other that second life.
SL	Basically my previous answers can apply to these answers as well.
SL	Like I've said before, content creation and socializing was easy, but the role playing was not.
SL	In regards to role playing it was next to impossible in my mind, but in terms of building it was very effective.
SL	The only role-playing game I had ever played before was The Sims and once I figured out the cheat code all I did was make houses and buy things. I found that because of my character I had to be this different persona in Second Life and it was not enjoyable because I did not get to by myself.

SL	I didn't take a rhetoric class at UT, i obtained college credit via AP exams.

Appendix H: The *Google Map* Assignment

Literary Criticism Presentations

Literary Criticism Group Presentations are meant to familiarize you with the research process necessary to write an analytical research paper in the humanities. As you know, your final papers for this class will involve elements of textual, historical, and cultural analysis; your (required) discussion of at least one scholarly article in your final paper will assist you here. Since we have the privilege of working in a DWRL classroom, these presentations will include both a "mind map" (using NovaMind) and a Google map, to help you visually represent the content of your presentation.

Presentations will showcase one scholarly article, which you will research in advance and run by me for approval. We will have one group presentation for each book. All presentations will take place on the last day of discussion of each book. You will notice that each presentation is scheduled for a Tuesday; one person in your group must be designated to e-mail the article to the class by 5 p.m. on the Friday preceding your presentation. The reading assignment for presentation days will be the article under discussion.

Presentations will have four parts:

1) **Article Summary and Discussion**: introduce the article—what can you find out about the author and the publication in which you find the article? Be able to summarize its main points and fit it into a discussion.

Questions to answer:
-What's the thesis of the article?
-What are the most important reasons that back up this author's claims?
-Which moments in the novel does the author refer to when backing up these claims?
-What kinds of research and resources does the author draw upon? Some examples could be historical events, cultural developments, or political debates that were happening at the time that the novelist was writing; other examples include other scholars' close-readings, reactions to the novel (such as book reviews), and theories about race or gender. Basically, what resources does the author refer to that are outside of the novel?
-Are there any holes in the argument?
-What do you find particularly convincing about the argument?
-Can you identify further evidence in the novel that does not appear in the article but that might further reinforce or complicate the claims in the article?

-What "scholarly conversation" is the author of the article participating in? (In some articles the author will explicitly state what conversation he or she is contributing to, but in others you might need to deduce what the conversation is.)

2) **Mind Map:** use the NovaMind program available on DWRL computers to construct a mind map to supplement your presentation. You can decide what information to include in your mind map, but it must include at least three branches sprouting from the central node. For example, you might use the mind map to represent information about the article itself, such as publication information, the author's background, and the aspect of the novel's historical context that the author features in the article; or you might map the article's textual, historical, and cultural analysis.

For your reference, here are the modes of analysis we talked about on the first day of class:

Formal: The world of the text. What literary devices does the author use and how do they contribute to the meaning of the text?
Historical: The world around the text. How did the historical circumstances of the author shape the text and the way it was written?
Cultural: The text in the world. What kind of "cultural work" has this text done? How has the text contributed to or been used in various cultural or political debates? What does the text tell us about prevailing cultural attitudes (about gender, race, or class, for example)?

3) **A Google Map** of the novel's censorship history, including a statement of how this history relates to the novel's social/political/cultural significance as discussed in the scholarly article. Two excellent resources for censorship histories are:

-*Banned Books*. Wachsberger, Ken, ed. New York, NY: Facts on File, 1998.
Call Number: Z 658 U5 B36 1998 V.1-4 PCL
-*Censorship: A World Encyclopedia.* London: Fitzroy Dearborn, 2001.
Call Number: Z 658 W675 C38 2000 V.1-4 PCL Reference

Get help from a librarian if need be.

4) **Conclusion**: close your presentations with a few questions for consideration for a discussion about the scholarly article and the novel it's responding to.

Grading: you'll be graded on content, organization, and delivery. Divvy up the work as you will, but on presentation day, everyone must have a speaking role and it should be clear to me that everyone has contributed substantively to the project. Be sure to practice in advance so that your transitions between speakers and between parts of the presentation are smooth. Your presentation should have a polished, prepped feel to it. There is no time minimum or maximum; the important thing is that you cover all the points you need to cover.

Some tips on delivery:
-Offer an effective attention-getter
-Deliver extemporaneously (do not read, although you can refer to notes), and with emphasis and enthusiasm
-Maintain good posture
-Maintain good eye contact
-Maintain a good pace
-Speak clearly and audibly
-Avoid distracting gestures

Signposting
You can easily lose an audience in an oral presentation, so it's important to leave "signposts" for them that signal very clearly that you're moving from one stage of the presentation to another. A few examples include:
Let's begin by...
Moving on to the next point…
Let's consider this in more detail...
Let me briefly recap...
To start with...
To finish up...
In closing…

Good Luck!

I Know Why the Caged Bird Sings, Tuesday, 9/14
1)

2)

3)

4)

5)

Bastard Out of Carolina, Tuesday, 10/5
1)

2)

3)

4)

5)

Lolita, Tuesday, 10/26
1)

2)

3)

4)

5)

The Country Girls, Tuesday, 11/16
1)

2)

3)

4)

5)

Appendix I: *Google Maps* Instructor Reflection

What might a geographical exploration of the critical reception of a novel reveal about "the text in the world"—how the novel circulates culturally? Over the course of the semester, my students in "ENGL 314L: Banned Books and Novel Ideas" contribute to a total of four group presentations—one presentation for every novel we read (see the assignment at http://www.dwrl.utexas.edu/content/literary-criticism-presentation-including-mind-map-and-google-map). Since the class is on banned books, one element of this presentation is a Google map of the novel's censorship history. These Google maps work in conversation with the Google maps that *I* present on the first day of each new unit, wherein I map the most salient points of the biography of the writer under discussion. Exploring the cultural work that writers and novels do in terms of geography is not only visually interesting (the students find it a fun novelty), but often yields surprising insights, as well.

For example, the group that presented on Maya Angelou's *I Know Why the Caged Bird Sings* expected to find that most cases of censorship happened around when the book was published, in the sixties, and they assumed that most censorship cases would have occurred in the South. However, they found that a large contingent of censorship cases having to do with the book occurred in the nineties, in such places as Colorado and California. Details from these cases led to a fruitful discussion about how U.S. national values break down (or don't) according to region.

In a presentation on Dorothy Allison's *Bastard Out of Carolina*, students mapped the critical reception of the novel more broadly, including both instances of censorship but also instances when the book was honored. They were surprised to note that although the novel addresses U.S. southern culture, it was most famously banned in the northeast, and its most prominent honors came out of LGBTQ circles in New York City and San Francisco. Students were surprised that the novel, which they interpreted as first and foremost a portrait of domestic abuse, has been so widely recognized for its contribution to the LGBTQ canon.

Appendix J: The *Google Earth* Assignment

309K: Rhetoric, Memory, and Forgetting
Mapping and Critiquing Monuments

In this assignment, you'll find an interesting monument or memorial on UT's campus to photograph, research, and critique—offering both an argument for the monument's existence as well as one against its existence. You'll then post your findings to the web.

To begin, you'll need to find an object on campus to work with. It can be a statue, a memorial, a monument, an artwork, and so on; all that I ask is that its existence have something to do with remembering (or forgetting). Let's say you pick the Caesar Chavez statue near the Student Union. First, you'll want to take a picture of statue with a digital camera so that you can load the photo onto the internet. If you don't have a camera, let me know and I can pair you up with someone who does have one. Next, you'll want to do a little research on the statue: Why is it near the Union? Who built it? Who paid for it? What is its significance? And so on. After reading about the statue, then you'll want to envision two arguments, one for why it should remain on campus and one for why it should be removed.

At this point, you'll want to open up a Word file and write three concise, but dense paragraphs explaining: 1.) what the statue is all about, 2.) an argument "for" it, and 3.) an argument "against" it. Then, on the appropriate day, you'll bring this write-up plus your photo to class.

In class, I'll show you how to use the programs Google Earth and Panoramio. We'll load both your photo and write-up into the programs, and after they're approved by the site administrator, everyone who goes to UT's campus on Google Earth will be able to see what you've come up with. You'll not only educate yourself through the process, but you'll also educate those people visiting the Google Earth website! Who knows, what you write may even elicit a response from someone outside the university, but it's up to you whether or not to keep the conversation going.

Finally, later in the semester after all your photos are approved, we'll take a digital tour of UT's monuments and memorials in class. That way, everyone can learn about the different monuments and memorials, as well as comment upon what you've written.

Points: This assignment will count for two research summaries (i.e., 8 pts). Good luck! And please let me know if you've got any questions!

Appendix K: *Google Earth* Instructor Reflection

The inspiration for the monuments and memorials assignment is multifold, but it is rooted in the simple observation that UT-Austin's cartographical space on Google Earth is missing photos of many interesting monuments and memorials that populate the campus. Thus simply having students photograph and map their artifacts constitutes a kind of "critical" (politically and ethically salient) remembering. Moreover, the vast majority of photos on UT's Google Earth space are without any commentary or "public" discussion, so one can hope that students' presentations of their arguments will spur such discussion (and that students will be excited to participate in these digitally-facilitated discussions with persons outside the university). Furthermore, having students write arguments that simultaneously cover multiple standpoints provides them with a key insight into the nature of truth (that it is always perspectival), and that said truths are rhetorically produced via discourse.

Another important theoretical insight that students may arrive at through the mapping of monuments concerns the ethics of rhetorical figuration. The assignment encourages students to compare the lives and accomplishments of the persons being memorialized with the memorials themselves, asking theoretical-ethical questions such as: Does the memorial retain fidelity to the life of the person in question? How so? Does the memorial sugar-coat, glorify, demean, or dis-figure the life of the memorialized? And if so, how might the monument or memorial have been designed and built differently? Finally, if no memorial can memorialize a life without violence, is it problematic to ask whether some memorials and monuments are more violent than others? It is questions

such as these that compel students to see the ethical force of memorial and "lethic" considerations.

Lastly, while on the topic of ethics, it is important to stress that our memorials assignment is rooted in revealing the ethical importance of forgetting. Whereas several scholarly investigations and assignments in rhetorical studies are related to the ethical and political importance of remembering, by contrast, very few are concerned with the ethical force of forgetting (for an excellent exception, see Vivian's *Public Forgetting*: http://www.psupress.org/books/titles/978-0-271-03665-6.html). However, as thinkers such as Nietzsche remind us, forgetting and remembering are inseparable and irreducible forces, and each has its place in maintaining the health of a society. Therefore, by having students argue for why certain monuments or memorials should be forgotten (even if only hypothetically), the ethical importance of forgetting can be revealed—which is a crucial insight, especially considering how many people (students included) believe that forgetting is wholly dangerous and deleterious, rather than a potential force of affirmation and viable social transformation.

Appendix L: *Second Life* Assignments

In-Class Second Life Activity

NOTE: Second Life is another digital environment that will put us in contact with people outside of our class. For the most part, we will be working in an environment that only our class has access to. Nonetheless, remember that SL is a public space that gets used in various ways, some of which you might not be comfortable with. This class in no way requires you to engage in any activity or to explore any virtual environments that make you uncomfortable. While you are encouraged to explore SL beyond the environment designated for our class, doing so is not a class requirement.

Since we will be using Second Life to play *Rhetorical Peaks*, we need to create our SL avatars and familiarize ourselves with this new virtual environment. To create a SL account, go here and enter the information as needed. NOTE: When you are asked to name your SL avatar ("Create your user name and password"), use your character's name from our MIPs for your avatar's first name (unfortunately, you will have to choose your avatar's last name from a provided list). Be sure to remember your avatar's name and your password; it might help to write this down somewhere. When you finish setting up your account, you do **not** need to download SL if you are using a classroom computer; these computers already have SL installed. You should be able to open SL on the computer, enter your login information, and start using SL.

Once you are in SL, you should go through the introduction/help/orientation phase to learn the basic ways to move around. Here's a quick reference:

Walk - use the arrow keys

Run - double-click the up arrow key

Fly/Stop flying - hit the "F" key and then use the arrow keys; to fly higher, use the "E" key; to fly lower, use the "C" key

Jump/Crouch - when you are not flying, the "E" and "C" keys allow you to jump and crouch

Zoom - while holding down the "alt" key, click your mouse and move it around

Once you have finished orientation, teleport to UT's main island. You can do this by clicking on the following link and then clicking "teleport now." When you do this, a window will open up in SL that will allow you to teleport directly to UT's space. In SL, click "teleport."

http://slurl.com/secondlife/UT%20Austin%201/101/159/22

Once you are on UT's SL island, explore! Practice moving around and chatting with your classmates. Change your appearance to try to make it match your character description from our MIPs. See what sort of options you have in the various menus. At this point, we are not using SL to play *Rhetorical Peaks*; we are just getting used to this new environment. So, have fun, and let me know if you have any questions.

Other helpful slurls/sites:

Rhetorical Peaks slurl: http://slurl.com/secondlife/UT%20Austin%203/199/204/43

Freebie Heaven: http://slurl.com/secondlife/Sooseunhwa/29/94/59

Best Bodies: http://slurl.com/secondlife/Alady%20Island/75/48/109

Freebies blog: http://inqconnections.com/freebiesblog/

Nyte N Day: http://slurl.com/secondlife/Nyte%20N%20Day/117/67/828

Appendix M: *Second Life* Instructor Reflection

When I took over the *RP* project, one of the first goals was working toward a game that students could build on (X and I talked about this quite a bit). We wanted the game to be open-ended enough that part of the challenge was to keep things going, to respond to the tragedy and contribute to the community in some way. There were various possibilities here, but I was particularly interested in having students design characters, and Second Life offered a space where these characters could come to life. At the very least, students could create avatars that embodied their characters; also, they could literally build upon and contribute to the town and community of Rhetorical Peaks. The main challenge was whether or not students could actually "play" as their characters in Second Life, but this virtual environment at least afforded the opportunity to try. (On a side note, in terms of students "performing" their characters, I ultimately found that some students had more success performing or embodying their characters on their websites than in Second Life. That is, some of the websites did a great job of capturing the spirit of the character in terms of visuals, tone, etc.)

The main goal focused on multimedia writing. I wanted students to produce texts in digital writing environments and to reflect on the similarities and differences between this sort of writing and more traditional writing assignments. (I think I had mixed results here. I think the students got more out of designing websites and developing characters there than in Second Life. I was very impressed with several students' ability to design avatars in Second Life that matched their characters – some students really nailed it. Some students also did a great job recording video in Second Life and using it as a

platform for introducing/capturing their characters. Finally, I was impressed with their ability to build things in Second Life and to program scripts. In other words, they really were able to write and develop the game in interesting ways. On the other hand, I don't think they completely got to the point where they really saw this work as writing. So, I was impressed with the work that they did, but I wish we had done further reflecting on this work as *writing*.)

Bibliography

Anker, Susan. *Real Essays with Readings with 2009 MLA Update: Writing Projects for College, Work, and Everyday Life*. Boston: Bedford, 2009. Print.

Anson, Chris M., and Susan K. Miller-Cochran. "Contrails of Learning: Using New Technologies for Vertical Knowledge-building." *Computers and Composition* 26.1 (2009): 38-48. Web. 17 Jan. 2009.

Arnheim, Rudolph. "Learning by Looking and Thinking." *Educational Horizons* 71.2 (1993): 94-98. Print.

Arroyo, Sarah J. "Playing to the Tune of Electracy: From Post-Process to a Pedagogy Otherwise." *JAC* 25.4 (2005): 683–715. Print.

Bloomberg, Linda Dale and Marie Volpe. *Completing Your Qualitative Dissertation: A Roadmap from Beginning to End.* London: Sage, 2008. Print.

Bogost, Ian. *Persuasive Games: The Expressive Power of Videogames*. Cambridge, Mass: MIT P, 2007. Print.

---. "Time for Games to Grow Up." Editorial. *The Guardian.* The Guardian, 8 Aug. 2007. Web. 5 May 2012.

Boulos, Maged N. Kamel, Lee Hetherington, and Steve Wheeler. "Second Life: An Overview of the Potential of 3-D Virtual Worlds in Medical and Health Education." *Health Information & Libraries Journal* 24.4 (2007): 233-245. Web. 14 July 2011.

Brinkmann, Astrid. “Graphical Knowledge Display - Mind Mapping and Concept Mapping as Efficient Tools in Mathematics Education.” *Mathematics Education Review* 16 (2003): 35-48. Print.

Brown, Stuart L. *Play: How It Shapes the Brain, Opens the Imagination, and Invigorates the Soul*. New York: Avery, 2009. Print.

Brown, Tim. “Tim Brown on Creativity and Play.” *Ted.* TED: Ideas Worth Spreading, Nov. 2008. Web. 15 Nov. 2010.

Buckner, Jane. “Empowering Students from Thinking to Writing.” *Student Successes with Thinking Maps: School-Based Research, Results, and Models for Achievement Using Visual Tools*. Ed. David N. Hyerle and Larry Alper. Thousand Oaks: Corwin, 2004. 14-33. Print.

Budd, John W. “Mind Maps as Classroom Exercises.” *The Journal of Economic Education* 35.1 (2004): 35. Web. 20 Oct. 2008.

Bump, Jerome. “Teaching English in Second Life.” *Currents in Electronic Literacy* 10 (2007): n. pag. Web. 8 Aug. 2011.

Burkhard, Remo Aslak. “Learning from Architects: Complementary Concept Mapping as a Bridging Technology.” *Information Visualization* 5 (2006) n. pag. Web. 14 Mar. 2012.

“C&W 2011: The Spaces and Places of Composing in Google Maps.” Map. *Google Maps.* Web. 8 June 2011.

Carr, Diane. *Learning to Teach in Second Life*. Institute of Education/Eduserv Foundation, 2008. Web. 13 July 2011.

CCCC Executive Committee. "Statement of Principles and Standards for the Teaching of Postsecondary Writing." *Conference on College Composition and Communication*. 1989. Web. 25 Apr 2012.

Cohen, Patricia. "Geographic Information Systems Help Scholars See History." *New York Times.* New York Times, 26 July 2011. Web. 26 July 2011.

Coleman, Catherine. "My Texas Google Earth Project." *Digital Writing and Research Lab.* U. of Texas at Austin, 2010. Web. 26 June 2011.

Collins, Barry. "Whatever Happened to Second Life?" *PC Pro*. Web. 13 July 2011.

Cozby, Paul C. *Methods in Behavioral Research*. New York: McGraw-Hill, 2004. Print.

Creswell, John W. *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. London: Sage, 2007. Print.

---. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: Sage, 2009. Print.

Crowley, Sharon. *The Methodical Memory: Invention in Current-Traditional Rhetoric*. Carbondale: Southern Illinois UP, 1990. Web. 22 Apr. 2009.

Csikszentmihalyi, Mihaly. *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play.* San Francisco, CA: Jossey-Bass, 1975. Print.

Darlin, Damon. "A Journey to a Thousand Maps Begins With an Open Code." *New York Times.* New York Times, 20 Oct. 2005. Web. 14 June 2011.

Dean, Jeremy. "Map Three Readings." *Digital Writing and Research Lab.* U of Texas at Austin, 2010. Web. 26 June 2011.

Deemer, Charles. “English Composition as a Happening.” *College English* 29.2. (Nov. 1967): 121-126. Print.

deWinter, Jennifer, and Stephanie Vie. “Press Enter to ‘Say’: Using Second Life to Teach Critical Media Literacy.” *Computers and Composition* 25.3 (2008): 313-322. Web. 14 Oct. 2009.

Eriksson, Lars Torsten, and Amie M. Hauer. “Mind Map Marketing: A Creative Approach in Developing Marketing Skills.” *Journal of Marketing Education* 26.2 (2004): 174 -187. Web. 26 July 2011.

Faigley, Lester. “The Challenge of the Multimedia Essay.” *Composition Studies in the New Millennium: Rereading the Past, Rewriting the Future*. Ed. Lynn Z. Bloom, Donald A. Daiker, and Edward M. White. Carbondale: Southern Illinois UP, 2003: 174-187. Print.

Faigley, Lester. “The Challenge of the Multimedia Essay.” *Composition Studies in the New Millennium: Rereading the Past, Rewriting the Future*. Ed. Lynn Z. Bloom, Donald A. Daiker, and Edward M. White. Carbondale: Southern Illinois UP, 2003: 174-187. Print.

Farrand, Paul, Hussain Fearzana, and Enid Hennessy. “The Efficacy of the `Mind Map’ Study Technique.” *Medical Education* 36.5 (2002): 426-431. Print.

Ferry, Brian, John Hedberg, and Barry Harper. “How Do Preservice Teachers Use Concept Maps to Organize Their Curriculum Content Knowledge?” Perth, Australia, 1997. Web. 22 Aug. 2011.

Flower, Linda and John Hays. "Plans that Guide the Composing Process." *Writing: The Nature, Development, and Teaching of Written Communication, Volume 2.* Ed. Carl H. Frederiksen and Joseph Dominic. Hillsdale: Erlbaum, 1981. 39-58. Print.

Gardner, Howard. *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic Books, 1981. Print.

Gee, James Paul. "Learning and Games." *The Ecology of Games: Connecting Youth, Games, and Learning*. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Ed. Katie Salen. Cambridge, MA: MIT P, 2008: 21-40. Print.

George, Diana. "From analysis to design: Visual communication in the teaching of writing." *College Composition and Communication* 54.1 (2002): 11-20. Print.

Gordon, Eric. "Mapping Digital Networks: From Cyberspace to Google." *Information, Communication and Society* 10.6 (2007): 885-901. Web. 12 Nov. 2009.

Haas, Christina. *Writing Technology: Studies on the Materiality of Literacy*. Mahwah, N.J: L. Erlbaum Associates, 1996. Print.

Hesse, Doug. "Response to Cynthia L. Selfe's 'The Movement of Air, the Breath of Meaning: Aurality and Multimodal Composing.'" *College Composition and Communication* 61:3 (2010): 602-605. Print.

Hoag, Trevor, and Tekla Schell. "The Avatar That Therefore I Am (Following)." *Currents in Electronic Literacy* (2011): n. pag. Web. 6 July 2011.

Hocks, Mary E. "Understanding Visual Rhetoric in Digital Writing Environments." *College Composition and Communication* 54.4 (2003): 629-656. Print.

Hodgson, Jusin. "Reculturalizations: 'Small Screen' Culture, Pedagogy, & YouTube | Enculturation." *Enculturation* 8 (2010): n. pag. Web. 2 Apr. 2012.

Huizinga, Johan. *Homo Ludens; a Study of the Play-Element in Culture*. Boston: Beacon, 1966. Print.

Jacobs, Dale, Hollie Adams, and Janine Morris. "Writing New York: Using Google Maps as a Platform for Electronic Portfolios." *Composition Studies* 38.2 (2010): 111-129. Print.

Jenkins, Henry et al. "Confronting the Challenges of Participatory Culture: Media Education for the 21st Century." The John D. and Catherine T. MacArthur Foundation. 2006. Web. 5 Dec. 2010.

Johanek, Cindy. *Composing Research: A Contextualist Paradigm for Rhetoric and Composition.* Logan: Utah State UP, 2000. Print.

Johnson, L., Levine, A., and Smith, R. *The 2009 Horizon Report.* The New Media Consortium, 2009. Web. 26 July 2011.

King, Matt. "Procedural Rhetorics - Rhetoric's Procedures: Rhetorical Peaks and What It Means to Win the Game." *Currents in Electronic Literacy* (2011): n. pag. Web. 6 July 2011.

Lauer, Claire. "Contending with Terms: 'Multimodal' and 'Multimedia' in the Academic and Public Spheres." *Computers and Composition* 26 (2009): 225-239. Print.

Lenhart, Amanda, and Mary Madden. "Teen Content Creators and Consumers." *Pew Internet and American Life Project.* Pew Research Center, 19 Dec. 2007. Web. 10 Sept. 2010.

Levine, Alan. "Two Minute Survey on What's Happening in Virtual Worlds." *NMC Virtual Worlds. New Media Consortium.* 12 Feb. 2010. Web. 22 June 2011.

Lunsford, Andrea A. *EasyWriter with 2009 MLA and 2010 APA Updates: A Pocket Reference*. 4th ed. Boston: Bedford, 2009. Print.

McCarthy, Sean. "The GoogleMaps Challenge." *Digital Writing and Research Lab*. U. of Texas at Austin, 2009. Web. 26 June 2011.

McCroskey, J. C., Prichard, S. V. O., & Arnold, W. E. "Attitude intensity and the neutral point on semantic differential scales." *The Public Opinion Quarterly*, 31 (1967-68): 642-645. Web 4 Apr. 2012.

Merriam, Sharan B. *Qualitative Research: A Guide to Design and Implementation.* San Francisco: Jossey-Bass, 2009. Print.

Messaris, Paul. "Visual Aspects of Media Literacy." *Journal of Communication* 48.1 (1998): 70-80. Web. 8 Aug. 2010.

Moretti, Franco. *Graphs, Maps, Trees: Abstract Models for a Literary History*. London: Verso, 2005. Print.

"More than a Number: Why Class Size Matters." *National Council of Teachers of English.* National Council of Teachers of English, 1999. Web. 25 Apr 2012.

"The New News Landscape: Rise of the Internet." *Pew Research Center.* Pew Research Center, 1 Mar. 2010. Web. 10 Sept. 2010.

Ong, Walter. *Orality and Literacy: The Technologizing of the Word*. New York: Routledge, 1982. Print.

"Play Science - the Patterns of Play." *The National Institute for Play*. The National Institute for Play, n.d. Web. 5 Dec. 2010.

Presner, Todd. "Digital Humanities 2.0: A Report on Knowledge." *Connexions* (2010): n. pag. Web. 15 July 2011.

Price, Jonathan. "Electronic Outlining as a Tool for Making Writing Visible." *Computers and Composition* 14.3 (1997): 409-427. Web. 12 Dec. 2008.

Purcell, Kristen. "Teen and the Internet: The Future of Digital Diversity." *Pew Research Center*. Pew Research Center, 23 Mar. 2010. Web. 10 Sept. 2010.

Rice, Jeff. "Urban Mappings: A Rhetoric of the Network." *Rhetoric Society Quarterly* 38:2. (2008): 198-218. Print.

Rouzie, Albert. *At Play in the Fields of Writing: A Serio-Ludic Rhetoric*. New York: Hampton, 2005. Print.

Sanchez, Joe. "A Sociotechnical Systems Analysis of Second Life in an Undergraduate English Course." *World Conference on Educational Multimedia, Hypermedia and Telecommunications 2007*. (2007): 4254-4258. PDF file.

---. "Barriers to Student Learning in Second Life." *Library Technology Reports* 45.2 (2009): 29-34. Print.

---. "Breaking the Second Life Learning Curve #2." *The Educators Coop.* The Educators Coop, n. p., 3 Nov. 2007. Web. 18 July 2011.

---. "Pedagogical Applications of Second Life." *Library Technology Reports* 45.2 (2009): 21-28. Print.

Selfe, Cynthia L. **"**The Movement of Air, the Breath of Meaning: Aurality and

Multimodal Composing." *College Composition and Communication* 60.4 (2009): 616-663. Print.

---. "Response to Doug Hesse." *College Composition and Communication* 61:3 (Feb. 2010): 606-610. Print.

Sells, Erin D. "Mapping Mrs. Dalloway: Teaching Woolf with Google Earth." *Virginia Woolf Miscellany* 73 (2008): 28-30. Print.

Shultz Colby, Rebekah, and Richard Colby. "A Pedagogy of Play: Integrating Computer Games into the Writing Classroom." *Computers and Composition* 25.3 (2008): 300-312. Print.

Sirc, Geoffrey Michael. *English Composition as a Happening*. Logan: Utah State UP, 2002. Print.

Sommers, Nancy. "Revision Strategies of Student Writers and Experienced Writers." *Cross-Talk in Comp Theory*. Ed. Victor Villanueva. Urbana: NCTE, 2003. 43-54. Print.

Stotsky, Sandra. "On Planning and Writing Plans. Or Beware of Borrowed Theories!" *College Composition and Communication* 41.1 (1990): 37-57. Print.

Syverson, Margaret A. *The Wealth of Reality: An Ecology of Composition*. Carbondale: Southern Illinois UP, 1999. Print.

Tullock, David L. "Many, Many Maps: Empowerment and Online Participatory Mapping." *First Monday* 12.2 (2007): n. pag. Web. 13 Sept. 2010.

Ulmer, Gregory L. *Internet Invention: From Literacy to Electracy*. New York: Longman, 2003. Print.

---. *Teletheory: Grammatology in the Age of Video.* New York: Routledge, 1989. Print.

Warburton, Steven. "Second Life in Higher Education: Assessing the Pot potential for and the barriers to deploying virtual worlds in learning and teaching." *British Journal of Educational Technology* 40.3 (2009): 414-426. Print.

Williams, Kimberly M. "Why and How Thinking Maps Works: A Language of Brain and Mind." *Student Successes with Thinking Maps: School-Based Research, Results, and Models for Achievement Using Visual Tools*. Ed. David N Hyerle and Larry Alper. Thousand Oaks: Corwin, 2004. 14-33. Print.

"WPA Outcomes Statement for First-Year Composition." *Council of Writing Program Administrators.* Council of Writing Program Administrators, 2008. Web. 25 Apr. 2012.

Yancey, Kathleen Blake. "A Call to Support 21st Century Writing." *National Council of Teachers of English*. National Council of Teachers of English, Feb. 2009. Web. 15 Oct. 2010.

Yin, Robert K. *Case Study Research: Design and Methods*. London: Sage, 2009. Print.

Young, Jeffrey R. "After Frustrations in Second Life, Colleges Look to New Virtual Worlds." *The Chronicle of Higher Education* (2010): n. pag. Web. 11 Nov. 2010.

Young, Nathan. "A Tech-Happy Professor Reboots after Hearing his Teaching Advice isn't Working." *The Chronicle of Higher Education* (Feb. 2012): n pag. Web. 5 Mar. 2012.

"Your New Tube: Online Video Continues to Grow." *Pew Research Center.* Pew Research Center, 3 Jun. 2010. Web. 10 Sept. 2010.